Florida WILDLIFE

The Welcome Weevil
Green Heron Goes Fishing

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JULY 1975

The Florida Magazine for all Sportsmen

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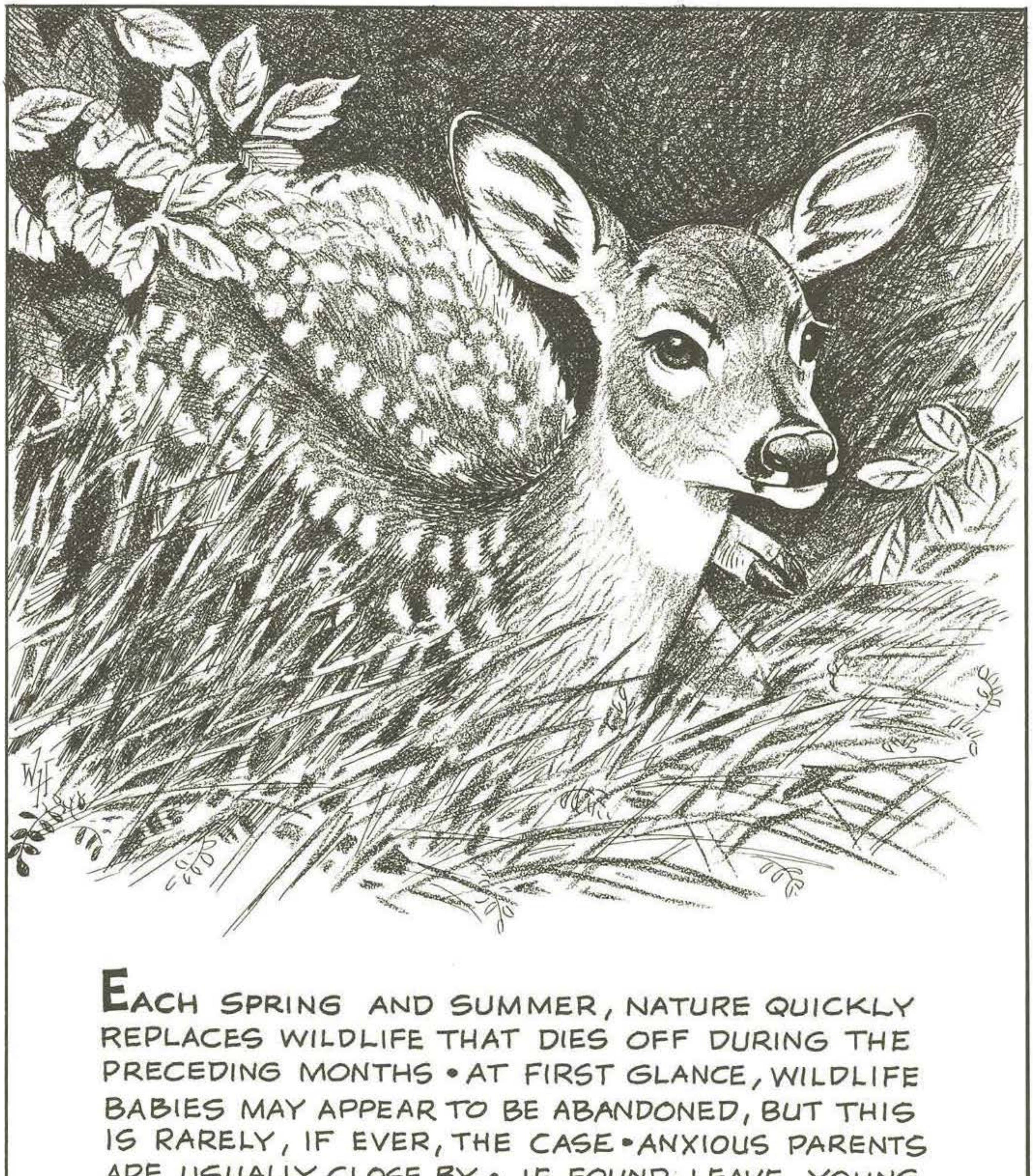

EACH SPRING AND SUMMER, NATURE QUICKLY REPLACES WILDLIFE THAT DIES OFF DURING THE PRECEDING MONTHS • AT FIRST GLANCE, WILDLIFE BABIES MAY APPEAR TO BE ABANDONED, BUT THIS IS RARELY, IF EVER, THE CASE • ANXIOUS PARENTS ARE USUALLY CLOSE BY • IF FOUND, LEAVE YOUNG WILDLIFE UNDISTURBED • NEVER TAKE THEM HOME • THEY ARE BETTER OFF IN THEIR NATURAL SURROUNDINGS • ALSO, IT IS UNLAWFUL TO POSSESS WILD ANIMALS WITHOUT A SPECIAL PERMIT FROM THE FLORIDA GAME AND FRESH WATER FISH COMMISSION

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The Cover

Around a blushing trumpet vine a midget bird might suddenly appear on invisible wings—a Ruby-throated Hummingbird, or perhaps it's just a foraging White-lined Sphinx, the "hummingbird moth." See page 21.

From A Painting By Wallace Hughes

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Florida has a new ally in the battle against the water hyacinth

The Welcome Weevil

IT HAS BEEN NEARLY THREE YEARS now since the initial release of a batch of insects with a yen for water hyacinths took place in a secluded area near Fort Lauderdale. The stocking of the exotic hyacinth weevil followed some four years of research by U.S. Department of Agriculture scientists in South America, where this promising nemesis of the troublesome water plant was discovered. Hopefully, it is going to prove a useful ally in Florida's long-continuing battle with the hyacinth.

The water hyacinth weevil, *Neochetina eichhorniae,* has the typical long, down-curved proboscis of the weevil tribe. As a matter of fact, it bears a startling resemblance to the boll weevil, ill-starred bugaboo of the cotton farmer. But much pre-introduction effort went into exposing the hyacinth weevil to a wide range of agricultural and ornamental plants to make certain its passion for green vegetation was confined to the hyacinth. There have already been too many unfortunate introductions of exotic creatures into the country to play fast and loose with an insect laboring under the tarnished reputation of the weevil tribe.

After successfully passing through a period in quarantine in California, the initial brood stock of hyacinth weevils was shipped to the U.S. Department of Agriculture research facility in Fort Lauderdale. Playing it doubly safe, the insects were reared through a generation, and only the offspring of the importees were turned loose in the wild.

The hyacinth has been a problem here in the Sunshine State for longer than any still-active Florida outdoorsman can recall. Its introduction into state waters has been touched on so often that it hardly seems appropriate to detail it here. Suffice to say that the prolific plant took hold so quickly and so firmly that even before the turn of the century the federal government had a crew looking into the situation because of navigation problems in hyacinth-choked waterways.

Much money and effort has gone into the attempt to bring the troublesome water weed under control. State, federal, and local agencies have leaned heavily on chemical sprays in an effort to gain the upper hand. The cost is currently running about $15 million a year. There have been some temporary and local successes, but the hyacinth still flourishes.

One key to the problem is the astounding rate of increase of the pesky aquatic. It is reported that in a single season one plant may produce as many as 65,000 others of its kind. Given suitable conditions, it doesn't take much of a seeding to get a real problem brewing.

What with the cost of chemical control, to say nothing of the possibility of some potentially unsavory side effects, other possibilities to help do in the hyacinth have been considered. Mechanical removal, useful under certain conditions, has definite shortcomings. The manatees (sea cows), once talked about as a control, would have to be practically shoulder to shoulder to keep up with a healthy expanding crop of hyacinths. The number and distribution of this bulky mammal are such that their effect is nil on the prolific weed. The grass carp has shown no inclination to rip wholeheartedly into the problem. Nutria browse the plant, but the cure could very well be much worse than the affliction even if they proved an effective control agent, which they haven't.

But the hyacinth weevil is a different story. Actually there are two closely related species, *Neochetina eichhorniae* and *N. bruchi,* both of which attack water hyacinths only. In their native South American range, they exert a controlling influence on the water hyacinth, keeping it from getting unduly out of hand. This is a key point in understanding our current hyacinth problem. When the plant was introduced into this country, there were no native insects or diseases that could help restrict its spread. So with several decades of head start, it is going to take time for any natural control to make a showing against the water hyacinth.

The hyacinth weevil completes the cycle from egg to adult in about three months. The female deposits her eggs in the tissue of the leaf or upper petiole (leaf stalk) of the hyacinth. In seven to ten days the small larvae (grubs) hatch out. They

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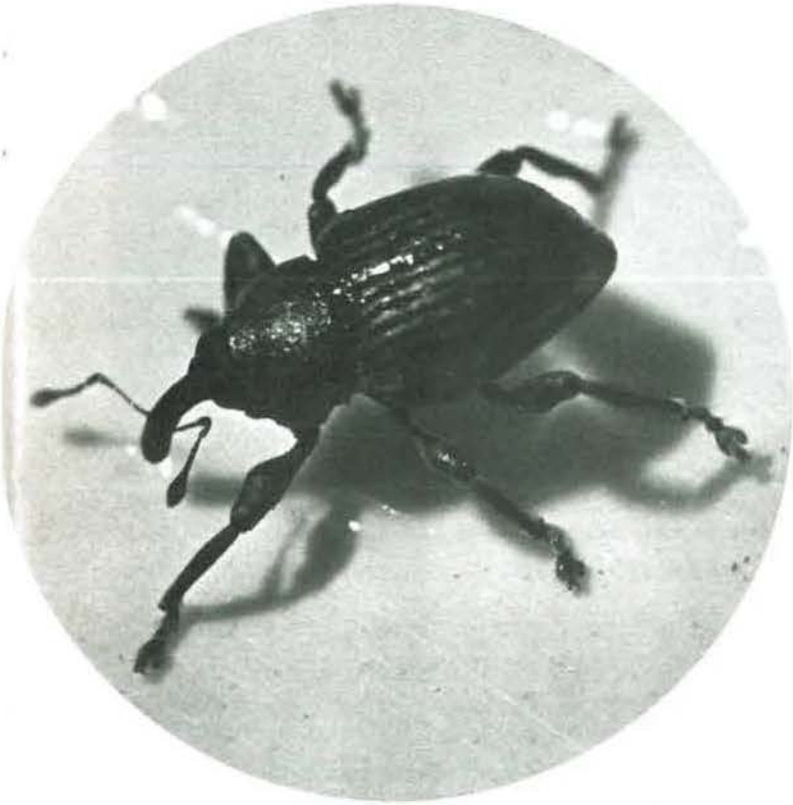
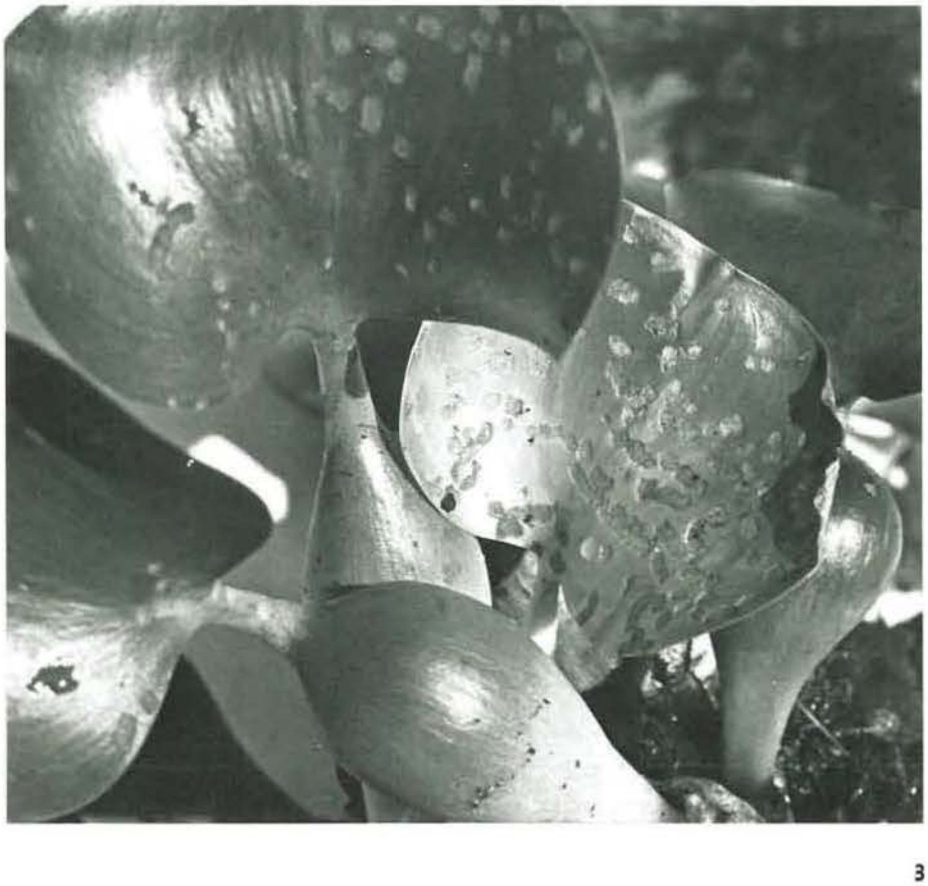


Photos By Wallace Hughes



By MORRIE NAGGIAR

An all too familiar scene, left, is a Florida waterway blocked by a solid mass of water hyacinths. It is easy enough to recognize Neochetina, above, as a member of the troublesome weevil tribe, but this one promises to render valuable service. Presence of adult hyacinth weevils is proven by series of brownish polka dots—dead plant cells surrounding the spots where insects have fed on the hyacinth leaves.

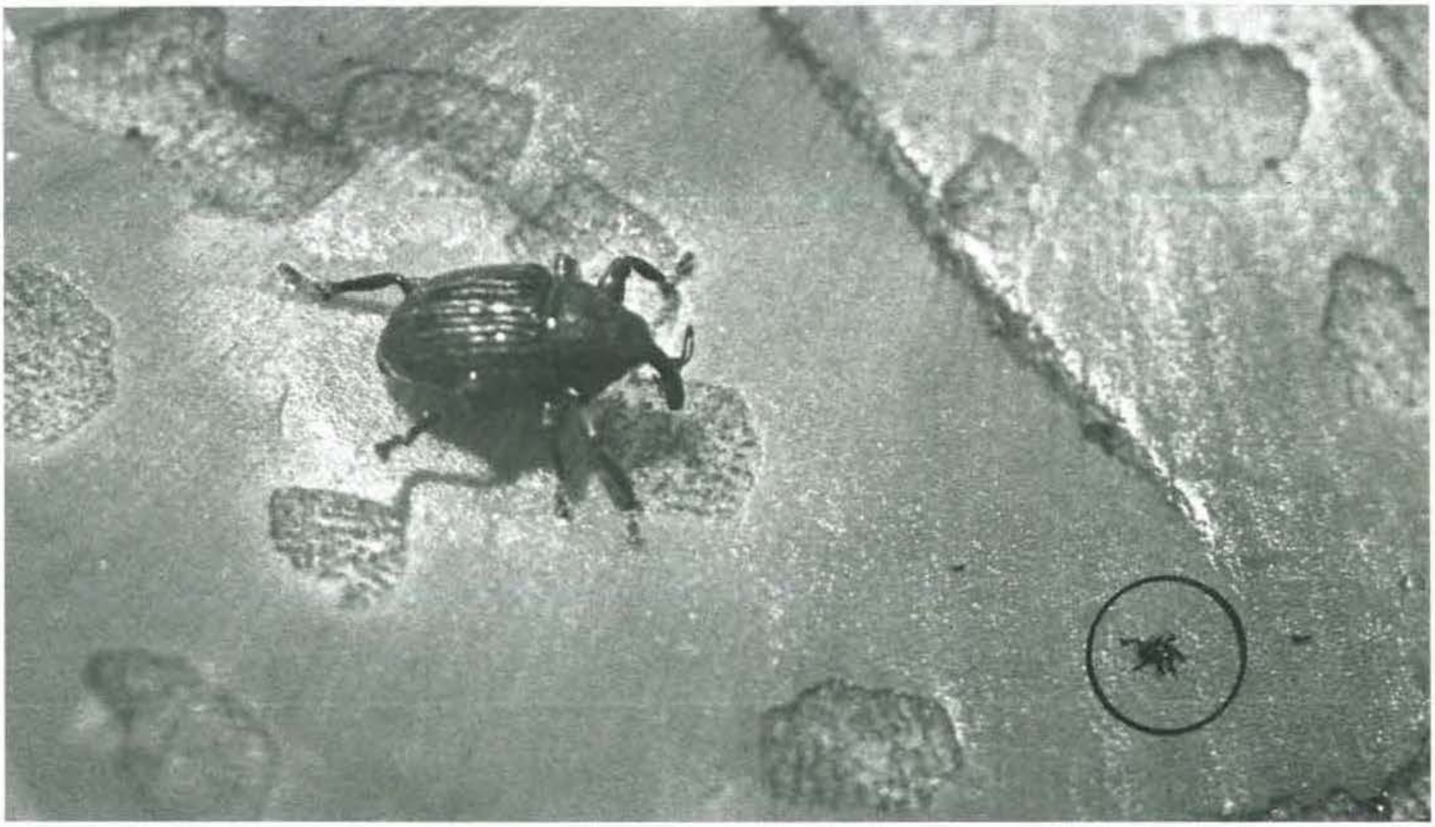


Photo By Wallace Hughes

A 5X magnified view of a hyacinth weevil surrounded by typical polka dot feeding spots. In the circle is a weevil reproduced life sized that shows why you might have difficulty finding a specimen of this helpful insect. Besides being small, adult weevils are active at night and take cover during the day.

(Continued from preceding page)

tunnel about the interior of the plant, eating through the vital crown area in the process, leaving brownish streaks of dead and dying plant tissue to mark their travels.

After spending a couple of months chewing their way through the interior of the host plant, the larvae then exit under water. There, attached to the extensive root system of the hyacinth, the larval weevil forms a cocoon about itself. It's a short stay, for within a couple of weeks the creature emerges as an adult weevil.

Adult hyacinth weevils are essentially nocturnal, feeding at night on the outer surface of the plants. The presence of these insects is attested by the polka dot pattern of small brown spots—dead plant cells surrounding the areas where the weevils have feasted. In addition to the direct damage caused to the plant by the insects' feeding activities, the spread of fungus infections as the weevils move about is another plus.

Following the initial release in the summer of 1972, some 65 other spot stockings were made in the Fort Lauderdale area by Dr. David Perkins, U.S. Department of Agriculture scientist. These areas were kept under close observation. Results were encouraging. In a cooperative agreement with the Game and Fresh Water Fish Commission and the Department of Natural Resources, distribution of the weevil to other parts of the state plagued by hyacinths are being made. Bill Maier, G&FWFC aquatic botanist is coordinating the effort.

There is no thought that the water hyacinth is going to be eliminated by the exotic insect with the convenient one-track idea of what is good to eat. That situation might not be an altogether unmixed blessing, even if it could be accomplished. The water hyacinth does have some redeeming features when present in moderation. A hyacinth mat can provide good cover for both game and forage fish, create a favorable habitat for the production of various fish food organisms, and act as a natural nutrient trap to aid overenriched waters, to name a few.

In its native range in South America, the hyacinth weevil has been doing what comes naturally to such a degree that the beautiful purple-flowered aquatic is just another member of the plant community, not the overwhelming invader it has become here in the absence of a natural control of any kind.

Even if the hyacinth weevil becomes widely established in Florida, it may be a long time before we see a balance between the plant and its insect nemesis, if such is ever attained. In the meantime, there are a whole lot of insect allies busily becoming established in outposts in hyacinth "jungles" around the state. They're working around the clock. Maybe they *will* help us get the upper hand on the great green glob. ●

THE CHAIRMAN COMMENTS . . .

By O. M. PHIPPS, Chairman

TRUE BARGAINS ARE GETTING HARDER and harder to find these days. Smart shoppers are doing a lot of comparison pricing before investing any money in a product. But there is one thing that has been a smart buy for years and today is worth more than ever before.

It's an annual resident fresh water fishing license, selling for the same price today that it did 12 years ago. That three dollars invested in Florida's fresh water fishing is money well spent when a close look is taken at where that money is going.

The Fishing Improvement Act of 1963 raised the price of a license by $1 and earmarked the increase, the first in 20 years, for a special Fishing Improvement Fund. That money is being used today, as then, for more and better programs to improve fishing for Floridians.

Part of the money goes into fish management areas, designated bodies of water which receive special attention in the form of scientific fish management practices. Currently there are more than 50 such areas established throughout the state through mutual agreement with each county commission.

Construction of lakes in areas which are not naturally endowed with them has also been made possible through fishermen's contributions. Northwest Florida has been fortunate in acquiring new fishing sites through this revenue.

The Fisheries Research Laboratory at Eustis can attribute its existence to this act. The critically needed laboratory was constructed through revenue generated from the increase. It serves as statewide headquarters for fisheries research, and the projects being carried on there will serve Florida fishermen for years to come.

One of the programs is a selective breeding program for bass. The first generation of this new superbass has already been produced, and the prospects are looking good. Fishery biologists are trying to develop a strain of largemouth that will grow faster and get to the fisherman's creel earlier.

These same biologists are also working on a program to evaluate the supplementary stocking of fingerlings in lakes with a declining bass population. Tagged subadult fingerlings between 3 and 6 inches long are being tested in eutrophic lakes to see if they will survive and increase the bass population available for anglers to take home.

Research on Lake Okeechobee and the St. Johns River is being conducted through these state funds. In the large south Florida lake, research biologists and specialists have determined that black crappie are being underfished, and that bass under 14 inches could stand more pressure. If the harvest on black crappie isn't increased soon, there will be no increase in their size.

Exotic fish research at the non-native fish laboratory just completed at Boca Raton is giving fishery biologists a closer look at some of the more troublesome species that have decided to make Florida their home. Biologists have determined that 45 exotic species have already established reproducing populations in Florida, with the black acara and walking catfish competing with the largemouth bass.

Stocking fish and a place to raise them; that's the job at the Richloam and Blackwater hatcheries. But the work is not limited to just rearing fish. Work is being done on developing new fish for anglers to catch. One of the most promising is the hybrid between a striped bass male and a white bass female. You probably read about it in the May 1975 issue of FLORIDA WILDLIFE. So far this year, 19 Florida lakes have received 100,000 fingerlings from this mating. This hybrid feeds on fishes such as the gizzard and threadfin shad, and is being placed in lakes with an overabundance of these.

In connection with this, the original striped bass stocking program is continuing with almost a million fingerlings being released each year across the state. This year, a domestic population of broodstock was discovered in Lake Talquin near Tallahassee. There, female striped bass from the original 1968 stocking have been captured for use in developing future stripers for stocking.

Even without all the ongoing research and fish management work being conducted by the Fisheries Division of the Game and Fresh Water Fish Commission, the $3 spent on an annual resident fishing license is a bargain.

Florida has fishing available 365 days a year in thousands of places. With the high cost of farm raised meat, catching fish for the dinner table is a cheap and protein-rich way to help feed a hungry family.

Yet, there are still people who feel they can utilize Florida's fresh water resources without making a contribution to conservation. Within the last 12 months, more than 3,000 persons were arrested for fishing without a license and ended up paying far more than it would have cost to buy a license in the first place.

Revenue from license sales is pumped back into dividends for the fishermen. Without this revenue, the future of fresh water fishing in this state would not be as bright as it is today.

Any way you look at it, that three dollars each year is a small price to pay for the value received. ●

1975 Hunting Season Information 1976

Northwest Region

(Jefferson County westward, inclusive)

Deer: November 8 through January 18.

Turkey: November 8 through January 18.
Gobblers only may be taken in Leon and Jefferson counties. Other counties—no fall open season.

Quail and Squirrel: November 8 through March 7.

Rabbit: No closed season.

Northeast, Central, South, and Everglades Regions

Deer:

November 8 through January 4, except—
DeSoto, Hardee, Manatee and Sarasota counties—November 15 through November 30, and December 6 through January 4.
No open season in the Florida Keys of Monroe County.

Turkey:

November 8 through January 4, except—
DeSoto, Hardee, Manatee and Sarasota counties—November 15 through November 30, and December 6 through January 4.
No fall open season in Alachua and Suwannee counties; or in that portion of Columbia County south of SR 240 and west of SR 47.
No fall open season in that portion of the Everglades Region lying south of SR 84 (Alligator Alley).

Quail and Squirrel:

November 8 through February 22.
No open season on fox squirrel in Lee, Hendry, Palm Beach, Monroe, Collier, Dade, and Broward counties.

Rabbit:

No closed season.

Statewide

Turkey Gobblers: Spring Season

March 6 through March 28 in that portion of the state lying south of State Road 50. March 20 through April 4 in that portion of the state lying north of State Road 50 to the eastern boundary of Jefferson County. March 20 through April 11 in Northwest Region.

Wild Hog:

November 8 through January 4.
In Palm Beach and Alachua counties, and in that portion of Levy County lying between the Suwannee and Withlacoochee rivers, generally bounded (north to south) by U.S. 27A, SR 337, lower SR 121, and U.S. 19-98, and including those lands lying north and east of U.S. 27A in R16E and belonging to International Paper Company. In that portion of Collier, Dade and Monroe counties west of Levee 28, south of SR 84 (Alligator Alley), north of the Everglades National Park boundary, and east of SR 29.

Bear:

Bear may be taken in Baker and Columbia counties, and on Tyndall Air Force Base in Bay County, during the established open season for taking deer; and by special permit on designated wildlife management areas. Limit 1 per season.

Shooting Hours—Resident Game

One-half hour before sunrise to one-half hour after sunset; except the Spring Turkey Season, when shooting hours will be one-half hour before sunrise to 1:00 p.m.

Archery Season (statewide)

(Excludes Wildlife Management Areas)

September 6 through September 29

Legal Game—Deer of either sex, other than fawn, (except antlerless deer may not be taken in Collier and Monroe counties); bear (in Baker and Columbia counties and on Tyndall AFB in Bay County), turkey (Northwest Region closed except that gobblers may be taken in Leon and Jefferson counties), quail, squirrel, rabbit, and wild hog. No open season in Broward or Dade counties; in that portion of Palm Beach county south of State Road 80; in that portion of Hendry County east of L1 and L2 levees; or in Collier or Monroe counties south of U.S. Highway 41 (hunting permitted in the tract lying between U.S. Highway 41 and the Loop Road). The possession or use of firearms while hunting with bow and arrow during the archery season is prohibited. The taking of deer from airboats is prohibited during the archery season. Crossbows are prohibited. The use of any unleashed hunting dog by any person hunting with bow and arrow during the archery season is prohibited. No dog shall be permitted, leashed or unleashed, on wildlife management areas during the archery season unless specifically permitted. Persons holding a valid archery permit in addition to a regular hunting license may hunt on designated wildlife management areas and on open lands during the established archery season.

Florida Hunting Licenses

Exempt—Residents 65 years of age and over and all children under 15.

Issued from County Tax Collector offices, and authorized subagents. Costs include issuing fees.

Servicemen stationed in Florida are considered residents of Florida insofar as licenses to hunt and fish are concerned.

Resident Senior Citizen Certificate	**No Charge**
Resident, Annual	
Series AK—Hunting-Fishing Combination, Statewide	**$10.50**
Series K—State	**7.50**
Series I—Home County	**2.00**
Series J—Other than Home County	**4.50**
Non-Resident	
Series L—State, Annual	**26.50**
Series M—State, 10-day Continuous	**11.50**
Series M1—County, Annual, Owners of and paying taxes on 3000 acres land	**11.50**
Resident or Non-Resident, Annual	
Series H—For hunting on licensed private hunting preserves only	**5.50**
Archery Season Permit	**5.00**
Issued from Office of Commission, Tallahassee	
Series Y—Guide, required for guiding hunting parties	**10.00**
Alien Hunting	**50.00**

Fishing the Weeds

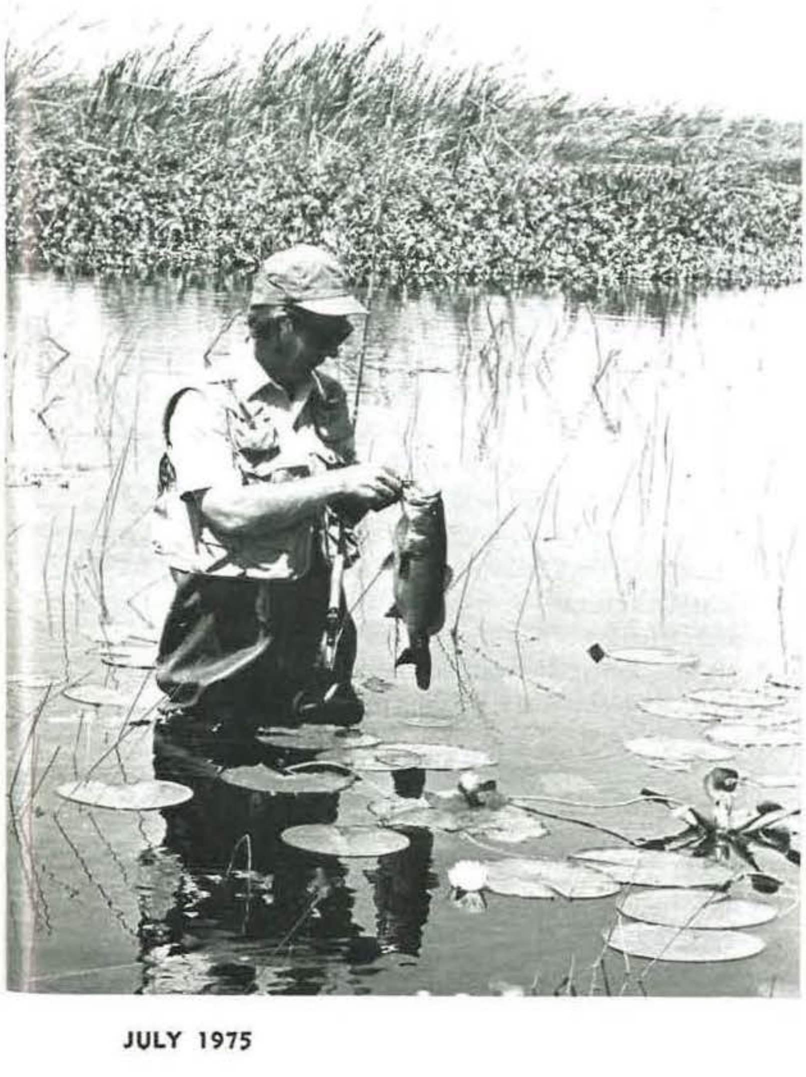
there are some tricks anglers can utilize that will make fishing the usually productive weed patches a little less trying

By CHARLES WATERMAN

FISHING WEEDY AND BONNET WATER can be a strongarm operation. Just chunk it out there and drag it back, using heavy enough tackle that only the most solid hangup can break anything. Maybe you can't make it a delicate operation, but there are refinements that save time and catch a few more fish.

Weedless lures are important, of course, but there are some fishermen who fish lily pad patches without weedguards. Why? Because there are days when a weedless lure, especially a surface lure, can be almost fishless. The reason is that the fish take slowly and gently, pushing the bait away without getting it.

Most of us use weedless stuff in bonnets and grass. A heavy spoon that's cranked fast requires a heavy weedguard. A light popping bug that's nursed along in the open spots and never moves rapidly requires only a little something to push it away from obstacles.



Fred Terwilliger wades the thick stuff for Lake Okeechobee bass.

The heavy lure not only strikes hazards with more force, but it is less likely to be blown away by a bass's strike so the stiffer weedguard necessary to fend off potential hangups is less obstacle to the fish.

Fishing in Lake Okeechobee a while back, we found a day when our weedless popping bugs simply couldn't seem to catch fish. They were cork-bodied, and the hook points were protected by wire that was just a little too stiff. The bass were coming up gently and simply mouthing the bugs. On other days they'd have clamped down hard and been hooked.

On the bad day we started using hair bugs without wire guards, and fishing got better immediately. We've been through that before. The hair bug is the perfect example of a very light lure that needs a minimum of protection from hangups. It also has the advantage of being soft enough that the fish doesn't let go of it quickly.

Hair bugs sometimes have a few strands of deer hair left long to protect the hook point, and others are bushy enough that the hook point isn't in the open at all. But even if the hook is left so that it has considerable bite outside the hair and there's no guard as such, the hair bug is a pretty respectable weed crawler. It requires careful observation. As you retrieve it, or pop it, you note that it's about to strike a pad or weed clump and you move it slowly and steadily. Many times the hairs will simply shove it away from the obstacle. If it seems about to hang up, give it slack and the hairs may push the hook clear. All of this sounds like a nitpicking way of doing it, but it's amazing how much it helps. By keeping your mind to it you can avoid about half of the potential hangups.

Through experience you learn some weedbed efficiency you aren't even aware of at the time. While bug fishing with a fine caster who hadn't done much time in landscaped water, I noted he was hanging up twice as much as I was although using the same type of lure. After watching for a while, I realized that I have learned to pay special attention to where my *line* is going to fall across

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lily pads or weeds. Although he was extremely accurate in putting the bug into open spots, he was careless about the hazards between him and the place where he dropped it. Then, as he moved the bug toward him or tried to pick it up, he would pull it into a hangup. I felt pretty smart about the whole thing since it is one of few accomplishments I have come by naturally in the past 50 years.

Regardless of the tackle used, shorter casts are better in thick cover. They're easier to direct through the bad spots, give you better control in case you hook a fish, and make for a shorter trip in case you have to undo a hangup.

Hooks made of light wire can often be pulled out of grass or pads, since they tend to cut instead of hanging on. Not many of them will actually cut out of a lily pad stem regardless of how neatly they go through a leaf. The certain lily pad hangup comes when your line or leader pulls the lure into the notch where the stem connects to the leaf in common kinds of bonnets. You might as well go over there and get it out with your fingers.

You can't use anything very light. I'd say that 15-pound-test monofilament is about right for spinning or plugcasting outfits, and I generally use 10-pound leaders on a flyrod. You can go heavier if you want to. The line or leader is right in there with all sorts of stems and leaves, and I doubt if it shows much.

THERE'S MORE ATTENTION TO LINE SIZE and color for bass nowadays. When the tournament fishing first got big, there was considerable scoffing at the dainty methods of bygone years.

"Put 'im in the boat," was the watchword of most competition lads, and they held forth about heavy lines and stiff rods. In many cases the rough treatment worked, and still does.

But with considerable cash on the line, and some tournaments being fished with small lures in clear water, we began to hear talk of very light lines. They paid off repeatedly, so nowadays nearly every tournament operator has some pretty thin string for those days when fish are cautious.

They talk about line color, too. I don't believe anyone can say a specific line shade is better at all times. That depends on the color of the water, the surroundings, and whether the fish looks at a lure from above, below, or from one side.

ELECTRICAL SHOCKING APPARATUS has become a basic tool of the fishery biologist. With it he can conduct a fish census, secure brood stock for hatchery use, or get a good idea of fish movements through use of tags.

Ever since catfishermen began the shocking business with the crude "monkey machine" of 20 years ago, there have been repercussions concerning it, even in the hands of trained fisheries people.

Fisheries biologist John Crew runs boat for net wielding Robert Carr, Blackwater Hatchery manager. Shocking apparatus is one of standard tools in modern fisheries work.

There have been claims that a fish is damaged by the current, even though he appears to recover within a few minutes. There have been accusations that although larger fish seem undamaged, very small fish might be injured and their food supply altered by the electrical charge.

As nearly as I can learn, and there have been numerous controlled tests, there is no practical damage as a result of skilled electrical shocking for management purposes. The equipment has come a long way from the monkey machine that brought up the catfish.

There are instances of the same fish being "turned up" in the same area for years, and those who should know tell me that the brief application of current does no harm to small organisms.

It is possible to kill a fish—or anything else—by prolonged use of the electrical charge. I have seen an occasional freshwater trout killed when it was accidentally cornered and overdosed with a hand-wielded shocker. Not only was that an unusual occurrence, but the trout are supposed to be more sensitive to electrical charges than are warmwater fishes.

In the big picture, shocking apparatus is invaluable in fish management, and there's nothing much on the debit side.

IF YOU WANT HARD AND FAST rules about when to bow to a jumping fish and when to hold him hard, go somewhere else. The "bowing" process is a product of light tackle and very large fish. It's a simple matter of a fish being much heavier in the air than he is in the water, and being capable of an extremely hard jerk if he falls away from you or falls on your line. Giving him a little slack eliminates some of that danger.

If he's a head shaker and the lure is heavy, bowing to him may enable him to get rid of it, but you have to take that chance if he's big enough to break off by getting his weight in the wrong place.

Now when you come to somewhat smaller fish you may do better by maintaining a tight line. Hal Lyman, who has written a couple of excellent books on bluefishing, says giving slack to a jumping blue is bad form. The bluefish is noted as a hook thrower.

PEOPLE WHO HAVE SPENT MUCH of their lives in small boats acquire a built-in sense of balance and a knowledge of where to step. This doesn't make them sailors, but it does keep them from falling overboard very often; and when you're used to such people it's startling to find a normal-sized person who seems able to rock an ocean liner.

I once spent a week fishing with a friend who had done most of his angling while wading trout streams. We had a beamy 16-footer and spent several days in it while fishing pretty big water. My young and athletic friend never so much as stumbled, and I forgot that he had generally kept his feet on the ground in former days.

Then we decided to fish a little canal with a tiny aluminum johnboat. We hauled it there in a station wagon and launched it with a small outboard motor. While I was stowing our gear my buddy wandered off a little way to inspect some Florida flora. I was seated by the motor.

"Okay," I said. "Let's go."

So he turned around, came on the run for 20 yards, and *jumped* from the bank into the little boat, As I saw him take off I was too startled to yell. I grabbed for the gunwales, which certainly weren't far enough apart to make me stretch.

The boat tipped perilously to one side and shot away from the bank, considerable canal water coming aboard. My athletic friend teetered for a moment and then sat down hard in the bow.

"I forgot we had changed boats," he said . . . .

The other extreme was a guide and commercial fisherman I used to know. He weighed in the neighborhood of 300 pounds, and although he wasn't particularly short he had a girth that demanded custom clothes. I doubt if he'd had a good straight-down view of the ground for years, but he could walk nonchalantly about a 14-foot skiff without seeming to even consider its registering "Tilt!" He had been raised around small boats and wore them like shoes. It's all in the training.

I remember what Chuck Schilling once said to a fellow who had cautioned an experienced fisherwoman scaling about 115 pounds. She was walking about a skiff and the well-meaning chap told her to be careful or she'd fall overboard.

"She won't fall overboard," Chuck snorted—"and you couldn't *push her* overboard!"

WITH ELECTRIC SHOCKING WORKING for collection of fish without harming them and rotenone wiping out the ones we don't want, some of the primitive fishing methods may be forgotten, but they're interesting. The matter of shock from a blow to the water gets some discussion. Can't say that I ever used the method, even when I was a gradeschooler with liberal views toward sportsmanship.

The idea is that if you hit the water hard enough with something close enough to a swimming fish, you'll knock him as cold as if you'd swatted him on the head. We did get fish out of nearly dry creeks by stirring up the water until the fish came to the surface. I believe the wood stork does the same thing in small puddles.

The use of explosives, of course, is about as illegal as you can get. I've heard of people firing a gun with the muzzle pointed straight down and almost touching the water, and turning up some fish, and I've also heard of submerging the muzzle slightly, trusting the gas to blow the water away from it. Anybody who tries that had better have his Blue Cross paid up, and he should use a gun he's tired of.

GI's needing seafood during wartime have gotten it quickly with grenades, and all sorts of wartime explosives have killed fish. During World War II I was photographing some underwater demolition experiments near Fort Pierce, one of which involved a charge of 64,000 pounds of TNT. (Don't blame the printers for a mistake. That's really 64,000 pounds.) That wiped out the fish of the area and also did in some gulls and pelicans. It also scared hell out of me.

Human swimmers can get knocked cold or worse if they swim near heavy underwater charges. I recall some underwater demolition swimmers (they'd be "frogmen" now) who were rendered helpless when mortar shells landed nearby—and, of course, there were many deaths caused by underwater concussion from near misses during naval and amphibious warfare.

It doesn't have to be an "explosive" to jar things considerably with a near miss. Many years ago when shooting frogs at night was legal, a couple of us learned that by hitting the water right by a frog's head we could knock him out without marking him. We were using .38 revolvers with wadcutter bullets, and after we'd collected a batch of frogs in our burlap sack we headed home for a feast. They regained consciousness in the meantime and had to be caught all over again when we opened the bag. ●

American Wildlife Management in Perspective

THE LAST NAME IS THE SAME BUT THEY'RE DEFINITELY NOT RELATED.

Hunting and Wildlife Conservation

SPORT HUNTING IS RECOGNIZED as a legitimate use of surplus wildlife by state and federal laws traceable in origin to the Magna Carta. These same laws establish the rights of the states to control the activities of hunters. Hunting is now regulated under comprehensive laws in every state. These are supplemented by federal laws applying to certain species, including migratory birds, and to the interstate shipment of wild animals and their products.

This was not always the case. Before the turn of the century, restrictions on shooters were few, and those laws that existed were poorly enforced, when enforced at all. In the early days, when the pioneer philosophy prevailed and many Americans lived off the land, nearly all edible or useful forms of wildlife were taken almost without restrictions at any time. "Useful" meant any bird or mammal that could be eaten or sold for its meat, feathers, fur, or other parts.

The brutalities historically attributed to hunters —the slaughter of the buffalo, the decimation of the sea otter, the extermination of the passenger pigeon, and others—involved mainly paid butchers who had no relationship at all with the modern sport hunter. The common use of bird plumage to decorate ladies' hats in the Gay Nineties and early 1900's nearly doomed the egrets and other plume-bearing birds before state and federal laws backed by firm enforcement checked their slaughter. Until comparatively recent times, any birds or mammals that eat meat—from sparrow hawks to grizzly bears—were considered enemies of the farmer or rancher and subject to killing on sight. Massive poisoning and trapping campaigns, largely by federal agents and professional hunters employed by livestock organizations, wiped out the prairie wolves and greatly reduced the numbers of cougars and bears. Now, these abuses, which were stimulated by economic concerns, have been substantially checked by a growing public appreciation of the many values of predators and of wildlife in general.

In recent times, demands for alligator hides by makers of shoes, wallets, and other leather goods, attracted poachers and illegal hide buyers to the swamps and bayous of the South. Their activities continue to be curbed by aggressive state law enforcement and by bringing the alligator under the protection of a long-standing federal law that prohibits interstate commerce in wildlife products taken in violation of state laws. Thus, state and federal conservation forces were united in correcting the problem.

From the standpoint of wildlife conservation, hunting must be judged solely on its effect on the species of animals hunted. The fact that many

designated game species have increased steadily in numbers over the years, in spite of growing numbers of hunters with greater mobility, testifies to the effectiveness of scientific wildlife management. It also shows that the carefully regulated modern hunter has no long-term negative effect on the comparatively few wildlife species he pursues. This conclusion is based on research in many regions of the country. Therefore, with properly regulated sport hunting having no adverse effects, the decision of whether to hunt or not to hunt is a matter of personal choice.

As with any large representative group of Americans, there are among hunters a minority who fail to abide by the laws and rules of sportsmanship. These people, when their activities are not checked by effective law enforcement and the disapproval of the public—especially by sportsmen—can have undesirable impacts on local wildlife populations and create unfavorable reactions to hunting and hunters.

Regulated hunting, however, properly applied, is an important tool of wildlife management. The annual cropping of grazing and browsing animals whose populations are near carrying capacity lowers the annual loss from disease and malnutrition. It prevents the animals from becoming so numerous that they deplete their own food supplies and the food and cover upon which other species depend. Wild populations that are below carrying capacity are far healthier and produce more young than those at or near the capacity of the range.

Virtually all of this essential wildlife management is financed by funds obtained from sportsmen. By purchasing required federal duck stamps, waterfowl hunters annually contribute around $10 million to federal waterfowl and wetland conservation programs. Like any other citizens, of course, sportsmen also pay federal income taxes that support national wildlife and allied resource programs. But more important, their license fees and special taxes provide about a quarter of a billion dollars each year for the basic support of the state fish and wildlife conservation programs. Few state wildlife agencies receive funds from the general public.

Sportsmen also contribute to wildlife conservation through private organizations. Many local and state sportsmen's organizations have active cooperative programs that maintain and increase wild populations on private lands without cost to the public. Ducks Unlimited, an association of waterfowl hunters, has created or restored more than 1,000 Canadian waterfowl production areas covering more than 2 million acres. These critical wetlands provide habitat for more than 200 species of wildlife.

Sportsmen's state hunting and fishing license fees are used to buy, maintain, and improve wildlife habitat that benefits both hunted and unhunted wildlife on public and private lands and to provide the modern equipment needed to enforce laws for the protection of wildlife. They make it possible to employ many thousands of managers, biologists, and conservation officers to protect and care for wildlife. Many state wildlife agencies own or control large land holdings that are managed intensively to maintain wildlife populations at desirable levels.

Some critics of the American system of wildlife management have charged that because hunters and fishermen carry the financial burden of wildlife conservation, the state agencies favor game species in their programs and ignore nonhunted species. This overlooks the fact that many state wildlife agencies have excellent nongame wildlife programs. Habitat created or maintained for pheasants or quail additionally benefits a wide range of nonhunted species, from meadowlarks to hawks and owls. Most serious birdwatchers know that

(Continued on next page)

This is Part 2 of a 2-part reprint of a bulletin, PLACING AMERICAN WILDLIFE MANAGEMENT IN PERSPECTIVE, prepared by the Wildlife Management Institute. Copies of the bulletin are available at 25¢ each from the Institute, at 709 Wire Building, Washington, D. C. 20005.

ILLUSTRATIONS BY OSCAR WARBACH

WATERFOWL MANAGEMENT AREAS PROVIDE FOOD AND COVER FOR A HOST OF NON-GAME SPECIES.

(Continued from preceding page)

some of the best birding is found on state wildlife management areas and refuges. Waterfowl management areas provide food and cover for a host of nongame species, ranging from marsh wrens to ospreys and eagles.

While most state wildlife agencies would welcome financial support from the general public, state legislators have been reluctant to supplement fishing and hunting license revenues with general fund appropriations. In 1937, a federal law, the Federal Aid in Wildlife Restoration Act, was passed by Congress. It allocated to the state fish and wildlife agencies receipts from an existing 11 percent excise tax on sporting firearms and ammunition for the purpose of conducting approved projects of wildlife research, land acquisition and development, and restocking of unoccupied habitats. To qualify for this assistance the states had to pledge all hunting and fishing license funds to conservation purposes. Before that time it was common practice for state legislatures to divert income from hunting and fishing licenses for schools, highways, and other public works, while the state wildlife agency obtained only a part of the funds for actual use for fish and wildlife conservation.

Until state legislatures show more willingness to support wildlife programs with revenues from other sources, sportsmen will continue as the principal source of financial support for wildlife conservation. The reluctance of the general public and state legislatures to support necessary conservation programs overlooks the great social and economic benefits of sound wildlife management.

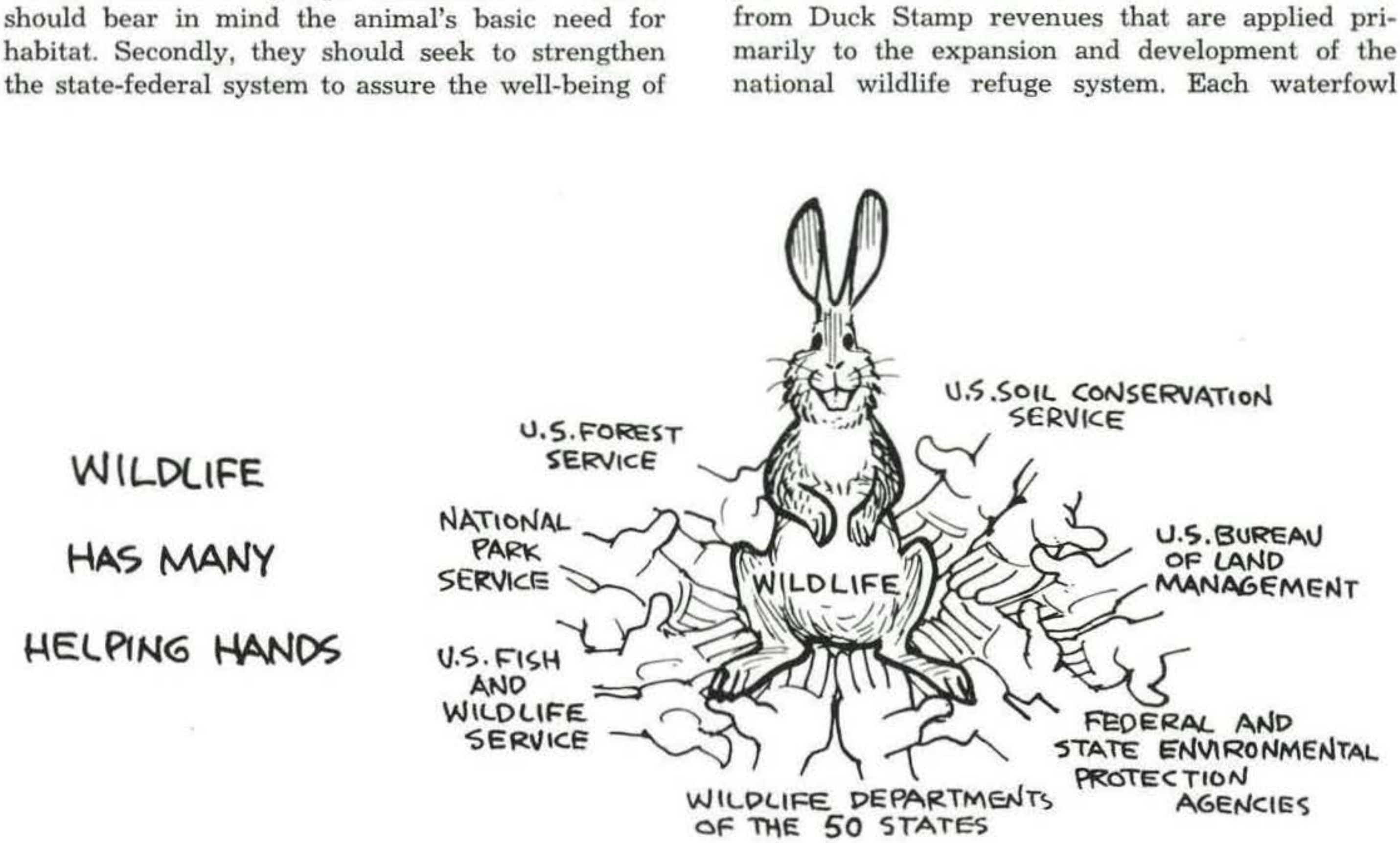
Individuals and groups interested in wildlife should bear in mind the animal's basic need for habitat. Secondly, they should seek to strengthen the state-federal system to assure the well-being of all wildlife. Distortion of the true facts with respect to America's wildlife only misleads the public. Further, it confuses lawmakers, who, in their efforts to respond to public concerns, sometimes resort to well-intentioned but ineffective remedies. The best thing that could happen to wildlife would be for all concerned Americans to join hands in working for truly needed programs. In this way, they would assure that adequate and effective steps are taken to restore depleted species and to prevent others from becoming endangered. . . .

The American System of Wildlife Management

The purpose of wildlife management is to maintain populations of wild animals at levels consistent with the best interests of wild species themselves and of the American public. Satisfying that objective is a big, complex job.

At the federal level, the U.S. Fish and Wildlife Service in the Department of the Interior is primarily responsible for regulating interstate and international traffic in wildlife and wildlife products and enforcing regulations applying to designated migratory birds. The Service administers the national wildlife refuge system, which provides protected and managed habitat for a wide range of wildlife species. It conducts research and maintains cooperative programs with state fish and wildlife agencies, private conservation groups, universities, and other federal land-management agencies.

The Service is funded primarily from the U.S. Treasury to the extent of around $90 million a year. It receives more than $10 million annually from Duck Stamp revenues that are applied primarily to the expansion and development of the national wildlife refuge system. Each waterfowl


WILDLIFE
HAS MANY
HELPING HANDS
U.S. FOREST SERVICE
NATIONAL PARK SERVICE
U.S. FISH AND WILDLIFE SERVICE
WILDLIFE
WILDLIFE DEPARTMENTS OF THE 50 STATES
U.S. SOIL CONSERVATION SERVICE
U.S. BUREAU OF LAND MANAGEMENT
FEDERAL AND STATE ENVIRONMENTAL PROTECTION AGENCIES

SPORTSMEN
$250,000,000 ANNUALLY TO SUPPORT WILDLIFE AND OTHER RESOURCE PROGRAMS

hunter, 16 years of age and over, must purchase a federal hunting stamp each year.

The U.S. Forest Service which controls 187 million acres of national forests, and the Bureau of Land Management which administers 465 million acres of public lands, and the Soil Conservation Service also employ staffs of wildlife specialists whose salaries are paid by congressional appropriations. Considering the vast acreages of wildlife habitat involved, the manpower and funds available have been inadequate to cope with the magnitude of the task.

Each of the 50 states has an agency responsible for managing and protecting wildlife. These agencies are financed almost exclusively by sales of licenses to hunters and anglers and by receipts from federal taxes on sporting arms and ammunition and fishing tackle allocated to them for approved fish and wildlife conservation projects. The combined annual budgets of the state agencies, from these sources and others, exceed a third of a billion dollars. Approximately, $250 million of this is derived from sportsmen.

Although program emphasis and organizations vary, the typical state agency contains a research branch that obtains facts on the status of various species of wildlife and develops techniques for management; a management branch that maintains, improves and develops habitat, and performs such tasks as livetrapping and transplanting surplus wildlife; a law enforcement branch, responsible for enforcing the laws and regulations applying to fish and wildlife; and a branch of public education and information.

The state, under common law rooted in the Magna Carta, owns and holds in trust for its people all of the wildlife within its borders. In the case of migratory birds, marine mammals, eagles, and some other species, prerogatives for protection have been assumed by the Federal Government through its treaty-making powers and special acts of Congress. Since state laws affecting these species usually parallel the federal laws, these species generally receive dual protection. Federal and state conservation officers cooperate closely in protecting wildlife.

State fish and wildlife agencies own or manage more than 50 million acres for wildlife production. These refuges and management areas provide the habitat needs of a wide range of birds and mammals, unhunted as well as hunted. State wildlife managers also work with landowners and with state and federal foresters and land managers to improve, restore and maintain wildlife habitat on private and public lands.

Application of management has restored some wildlife populations, and holds promise for helping more.

Some Accomplishments of Modern Wildlife Management

To appreciate the present, one must understand the past. Around 1900, most authorities did not have much hope for any of the larger forms of wildlife surviving far beyond the 1920's. This pessimistic view failed to foresee the scientific wildlife management programs that developed in the early 1930's and which have been expanded through subsequent decades. Here are a few historical comparisons:

- Beaver: *1900*—Eliminated from the states of the Mississippi Valley and all eastern states except Maine: common only in Alaska and a few localities in the Pacific Northwest and Rockies. *Today:* Common to abundant in nearly all states except Hawaii.
- Pronghorn Antelope: *1925*—Authorities esti-

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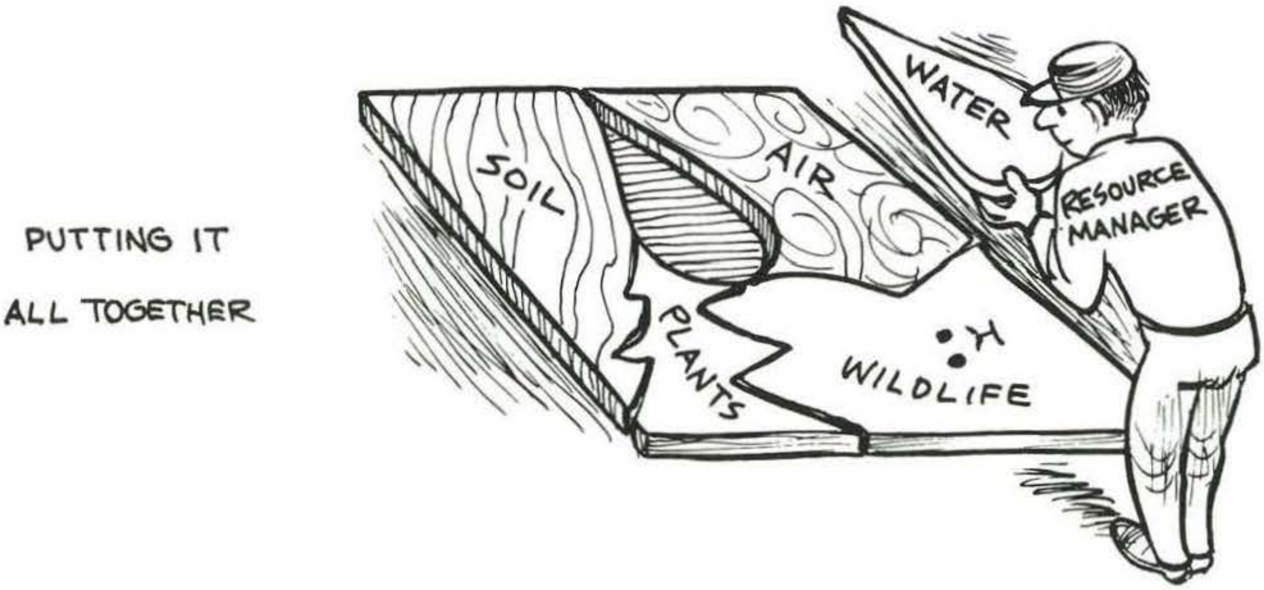

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mated 13,000 to 26,000 in U.S.A., most in Wyoming and Montana. *Today:* Minimum population in all western states is 500,000.

- Bison: *1895*—800 survivors. *Today:* Population about 6,000 in U.S.A.; all available range fully stocked.
- Elk: *1907*—Common only in and around Yellowstone National Park; estimated total south of Canada, 41,000. *Today:* About 1 million in 16 states.
- White-tailed Deer: *1895*—About 350,000 south of Canada; extirpated from more than half the states. *Today:* Approximately 12 million in 48 states.
- Wild Turkey: *1930*—Common in only a few southern states, eliminated from most. *Today:* Restored to 43 states, including establishment in several outside original range of species.
- Fur Seal: *1911*—Official census in Probilof Island showed 215,900. *Today:* Herd maintained at around 1.5 million under a scientific management program.
- Egrets and Herons: *1910*—Several species on the brink of extinction because of slaughter on their nesting grounds by feather collectors to supply the millinery trade. *Today:* Most species common to abundant over most of the United States.
- Trumpeter Swan: *1935*—73 survivors south of Canada on one wildlife refuge. *Today:* Thriving populations on two national parks and several national wildlife refuges. Removed from endangered status in the late 1960's.
- Wood Duck: *1915*—Greatly reduced in numbers and considered a candidate for early extinction. *Today:* The most common breeding waterfowl in eastern U.S.A.
- Sea Otter: *1907*—Nearly extinct; a few survivors in Alaska's Aleutian chain and in coastal California. *Today:* Minimum of 50,000; successfully restored to waters of mainland Alaska, Oregon, Washington, and British Columbia, increasing and extending range in California.

SWEET MUSIC
PUBLIC SUPPORT OF WILDLIFE MANAGEMENT

Since 1938, state fish and wildlife agencies have used sportsmen's license fees and special taxes under the Federal Aid in Fish and Wildlife Restoration Acts to:

- Acquire, develop, or manage 2,900 wildlife refuges and management areas totalling nearly 40 million acres. These lands protect vital habitat of a wide range of wildlife and are heavily used by bird watchers, nature students, and other outdoor enthusiasts.
- Construct or restore more than 300 lakes for fish and wildlife with a total surface acreage of 35,000.
- Acquire or develop more than 3,000 public access areas that open nearly a million otherwise inaccessible acres and 2,000 miles of stream to outdoor recreational use.

- Livetrap and transplant to unoccupied habitat more than 50,000 deer, 16,000 antelope, 2,000 elk, 1,000 mountain sheep, 18,000 fur animals, 20,000 wild turkeys, 22,000 waterfowl, and 130,000 quail.
- Conduct extensive research on wildlife habitat needs, diseases, population trends, predator-prey relationships, and wildlife crop damage abatement.
- Assist hundreds of thousands of landowners with wildlife habitat improvement projects.
- Conduct public conservation education programs for school teachers and students and promote understanding of wildlife needs and habits through articles and television shows.
- Protect both hunted and nonhunted wildlife by apprehending conservation law violators. Many state conservation law enforcement officers also enforce laws against polluters, whose activities impose serious threats to wildlife and its habitats. But, as in all resource management efforts, public support is essential.

What You Can Do

There are many steps the concerned citizen can take to assure the future of America's wildlife.

Those who own land, whether suburban lot, woodlot, farm or ranch, can make improvements that will attract and hold wildlife, often at minimum expense. Your state wildlife agency has publications outlining such improvements. Many state agencies provide on-the-ground technical assistance and inexpensive wildlife food and cover planting stock within the limitations of budget and manpower. Additional information and assistance are available from the Extension Service, U.S. Department of Agriculture, at your state university.

Those who do not own land directly are shareholders in the largest landholdings in the United States. These are the 725 million acres of national forests, parks, wildlife refuges, public domain, and other lands held in trust for the American public by the Federal Government. Even on the national wildlife refuges, program funding has not kept pace with demand. As a citizen shareholder you can insist that Congress and the Administration provide adequate funds to maintain balanced uses of resources and wildlife populations on all public lands.

Additionally, all citizens can help wildlife if they:

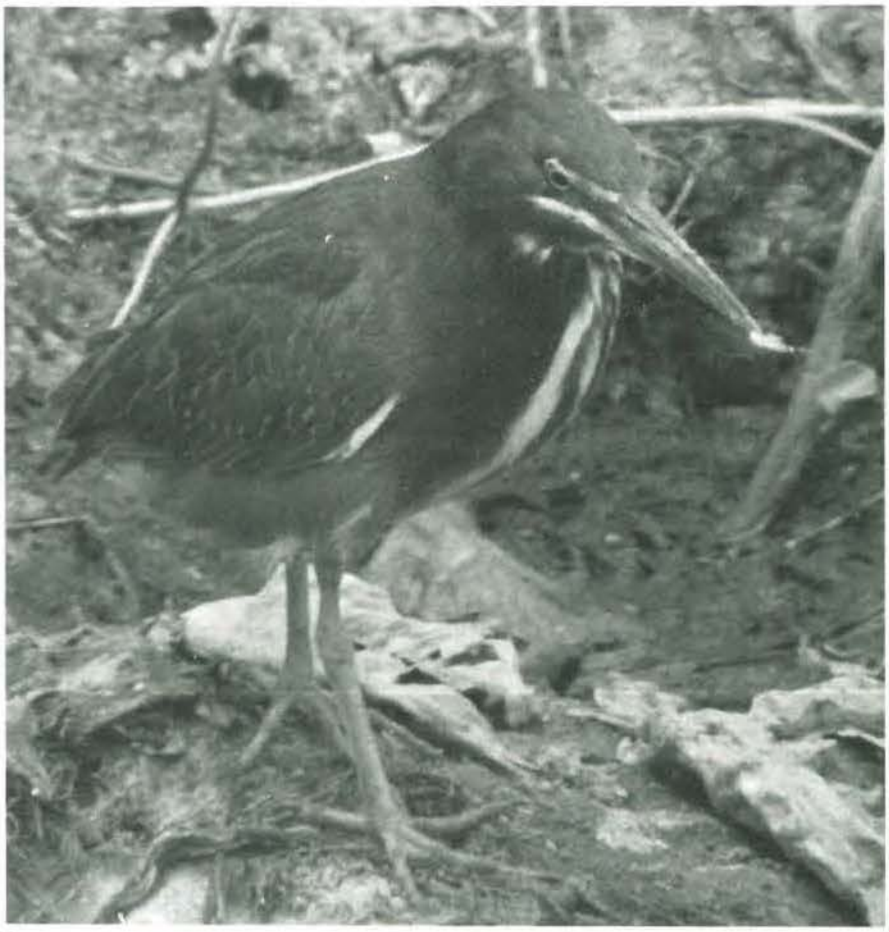
- Support federal, state, and local efforts to develop land-use planning programs that protect vital wildlife habitat from unnecessary and haphazard development.
- Urge public officials to consider wildlife in all programs affecting land and water developments.
- Insist that agriculture, flood-control, and other publicly subsidized government programs yield broad public benefits in the form of wildlife enhancement.
- Realize that wetlands are not wastelands but essential units of the landscape that have important ecological functions of economic and cultural importance to man.
- Reject simplistic panaceas for maintaining and restoring wildlife based on . . . emotion.

The perpetuation of wildlife requires the attention of well-trained and experienced specialists. Each state now has a staff of such scientists. See that they have the public support and funds needed to carry out their work in a climate free from political meddling.

America can retain and expand its rich wildlife heritage if it applies scientifically sound facts to the management of all wild species and if its citizens harmonize their activities with the systems of nature. ●

MANAGEMENT BROUGHT US BACK !!

WITH PEOPLES' HELP, WE CAN COME BACK TOO!



1

an alert photographer catches an avian fisherman in action

Green Heron Goes Fishing

By DAVE NORRIS

IT ALL STARTED WHEN I FIRST SAW the green heron standing on the opposite bank of the ditch holding a fluffy white feather in the tip of its bill.

The sky was cloudy and it was pleasantly cool for July. As I walked along the ditch, on a ranch near my home in central Florida, I had no idea that I would soon see—and photograph—an almost unbelievable scene.

At first, my presence seemed to make the small, crow-sized heron uneasy, and it watched me closely. Slowly, carefully, I lowered the tripod I was carrying and fumbled with the telephoto lens mounted on my camera. As the heron came into focus, I could clearly see its rust-brown neck, striped chest, green wings, and gray belly.

To my profound annoyance, I could also clearly see the fluffy white feather still firmly clamped in the tip of the heron's bill, spoiling my chance for an "unblemished" portrait. (See photo #1)

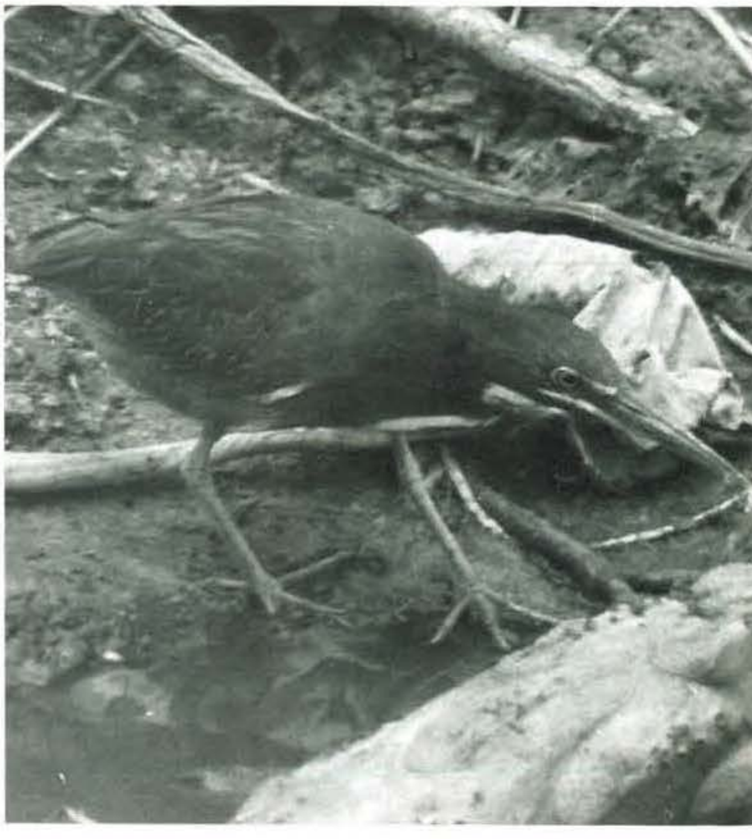
Finally, after apparently deciding I constituted no particular threat, the heron began a slow stalk along the edge of the ditch, watching the shallow water intently. After a half-dozen paces or so, the bird came to an abrupt stop in a very awkward position. The feather, now a little the worse for wear, remained clamped in the bird's bill. (See photo #2)

Slowly, the heron shifted its weight as it carefully pivoted to its right toward the water . . . *and then it deliberately dropped the feather onto the surface of the water!* (See photo #3).

As the feather bobbed along, the heron watched it intently, its body quite rigid. A small piece of fluff stuck stubbornly to the bird's bill. (See photo #4)

Soon other eyes saw the feather. Several min-

2

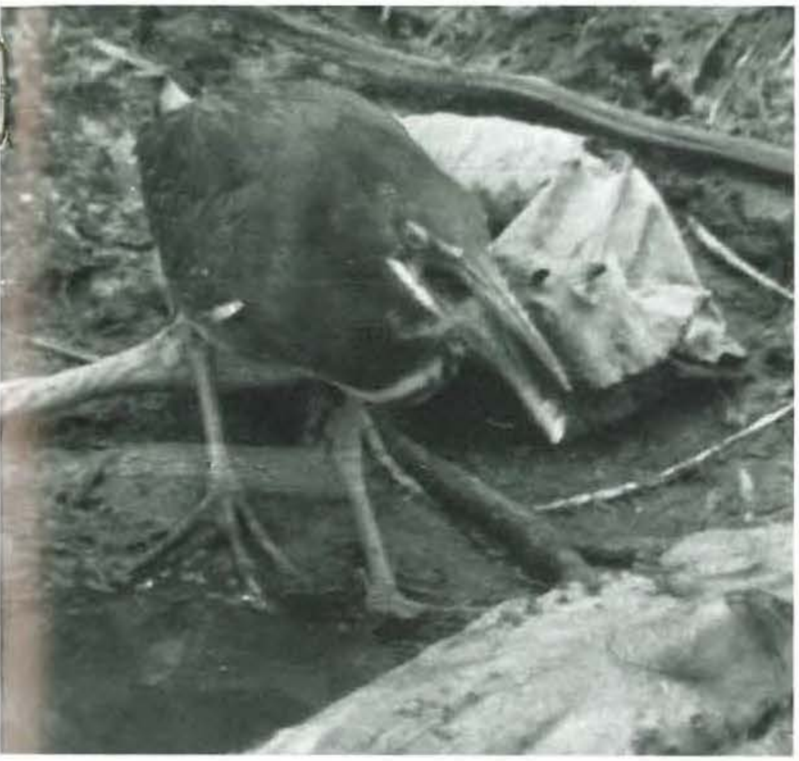


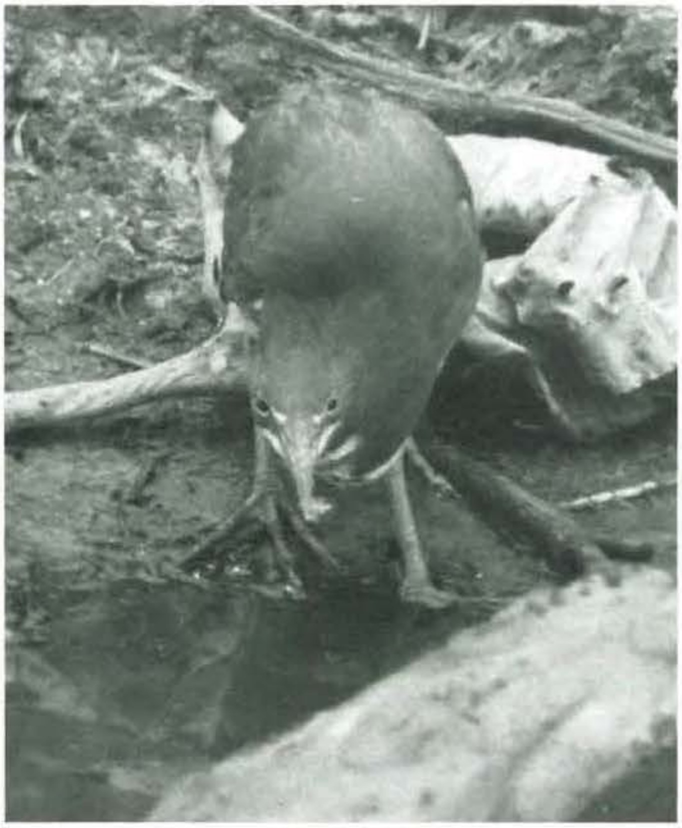
nows swam close to investigate. Snap! The heron's strike was lightning-quick. A small, luckless minnow wriggled briefly in the bird's bill before the hungry heron gulped it down. (See photo #5)

As incredible as it seemed, I had actually seen a bird using a "tool"!

Although I didn't know it then, this was not the first time a green heron had been photographed luring minnows within striking range. Some months earlier, another one had posed for a photographer at Miami's famous Seaquarium as that bird used fish pellets to lure its dinner to the surface. But my lucky experience marked the first time a green heron had been photographed—or, for that matter, *seen*—baiting minnows with an object readily available in its natural environment: a feather "lure."

3





In all the world, only a few creatures have so far been observed using objects as tools. Sea otters have been photographed off the California coast using rocks to crack open a tasty shellfish snack. Wild African chimpanzees have been filmed "fishing" for termites with twigs, and a certain finch found only on the Galapagos Islands regularly uses thorn "spears" to impale insect dinners. Egyptian vultures will tirelessly pitch rocks at an ostrich egg for hours in anticipation of a gigantic omelet.

Now, perhaps one of North America's more common birds, the green heron, can be added to this short list of exclusive animals. And who knows? Maybe the next time you find yourself with time on your hands in a lonely duck blind, or as you lazily pull a plastic worm through the water at your favorite fishing hole, you may be lucky enough to catch a glimpse of a small, feathered fisherman on the far shore trying a "lure" of its own. ●

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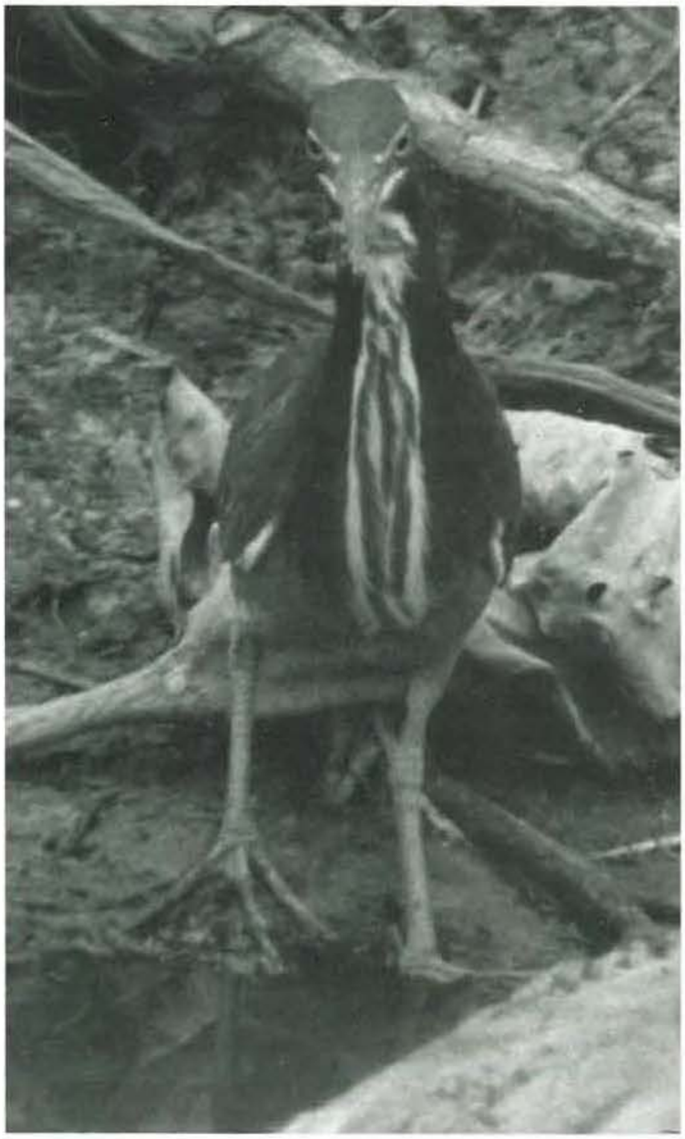


Photos By Dave Norris

some 40,000 acres of good public hunting lands are tucked away in the far northwest corner of the state

La Floresta Perdida Wildlife Management Area

By JERRY GIRVIN

WERE IT NECESSARY TO LIMIT A DESCRIPTION of Florida's westernmost management area to a few words, it could be done with two: beautiful and bountiful. Aside from its abundance of game, this area qualifies as one of the most scenic of the Commission's 42 wildlife management areas.

La Floresta Perdida, "a pretty place where flowers grow on the Perdido" is located in Northwest Florida immediately adjacent to the Alabama state line. In fact, the western boundary of the management area is the Perdido River, which forms part of the boundary between the two states.

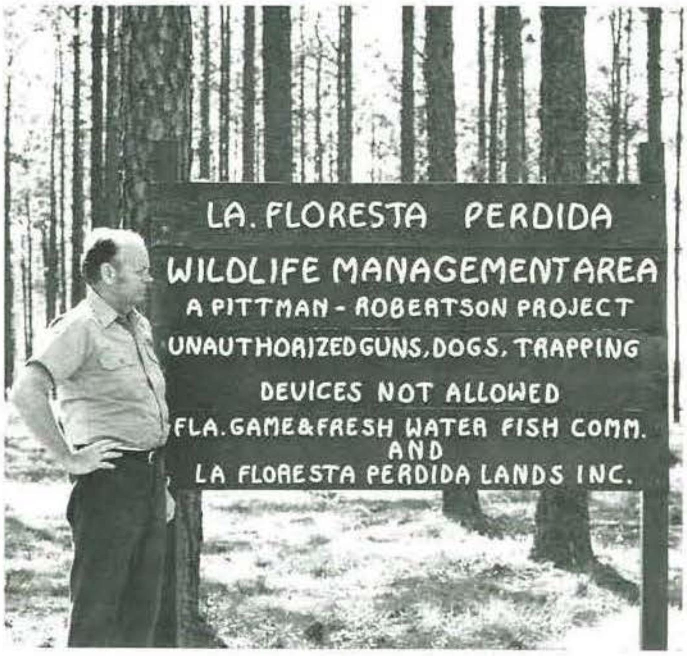
The land is owned by La Floresta Perdida, Incorporated, and is managed for timbering and cattle operations. The same owner has operated the area since 1937, and pioneered the use of combining game management of the land with commercial uses of the same lands to the benefit of both. Sportsmen who elect to hunt this area will find a minimum of heavy or old underbrush. A comprehensive burning program calls for a third to a half of the 40,000-acre area to be burned annually on a rotation basis.

The burning provides an abundance of fresh browse for wildlife, and permits a greater percentage of survival in species such as quail and turkey. John P. Hale, land manager for the Perdida company, summarized their programs by saying the company is committed to a program of land renewal. Timber is harvested on a select basis rather than on a clear-cutting program. Lands which are improved for pasture are planted, leaving a majority of the timber standing. Improved areas are spotted, leaving virgin stands of brush and timber for game cover and nesting areas.

A standing policy of the operation is that modifications to the land be held to a minimum and be of a temporary nature. Projects are planned so that over a period of years, any particular portion of land will be returned to something akin to its original nature.

In the south end of the management area, there is a 5,200-acre reserve which is closed permanently to hunting and entry. Here, the cattle are pastured during the open season, and here is a refuge area for game.

Since its incorporation into the Commission's management area program in 1969, La Floresta Perdida has hosted a small but steady flow of local sportsmen. Last year, an estimated 5,950 persons hunted on the area during the entire season, with an average weekly pressure of approximately 541 hunters.


LA. FLORESTA PERDIDA
WILDLIFE MANAGEMENT AREA
A PITTMAN - ROBERTSON PROJECT
UNAUTHORIZED GUNS, DOGS, TRAPPING
DEVICES NOT ALLOWED
FLA. GAME & FRESH WATER FISH COMM.
AND
LA FLORESTA PERDIDA LANDS INC.

Many of the hunters return annually, and most are known to the La Floresta Perdida company's six-man permanent staff. Through the years, there has grown a respect between these people, and there is a minimum of problems such as littering, malicious damage, and fence cutting. The La Floresta Perdida staff members are generally available to sportsmen for help or hunting suggestions. The sportsmen, in turn, have adhered to area regulations and helped protect the area and its wildlife.

Harvests are relatively high on the La Floresta Perdida WMA. The 1974-75 season produced 87 deer, 1,450 quail, and 500 squirrels. The area was closed to turkey hunting during the fall, but from sign and observations, there is a good turkey population on the area. The spring gobbler season was quite productive for Panhandle turkey enthusiasts, who took an estimated 10 birds.

A new hunter will find several problems in hunting the La Floresta Perdida. The first is locating the area. It is in a reasonably remote area of the state, approximately 30 miles north of Pensacola. Easiest access to the area is north of Pensacola on U.S. Highway 29. Just north of Cottage Hill, take a left onto State Road 99. Turn right, or north, on SR 99 to Bay Springs and then left onto SR 97A.

(Continued on next page)

Doe and yearlings are seen in hardwood hammock close to the Perdido River. La Floresta Perdida Lands Inc. has managed its property for timber and cattle production since 1937. Regular controlled burning keeps down the heavy underbrush. Series of graded clay roads enter the area off of State Road 97A.

Photos By Jerry Girvin

This is No. 13 in a series of articles on Florida Wildlife Management Areas. Maps and regulations on individual areas are available from regional offices and from the Florida Game and Fresh Water Fish Commission, 620 S. Meridian St., Tallahassee, FL 32304.

(Continued from preceding page)

State Road 97A is the primary paved road that runs through the area and serves as a partial eastern boundary. A series of graded, clay roads lead into the management area off this highway. A word of caution is due concerning wet weather. The terrain is mostly short, steep hills and valleys. In wet weather, a four-wheel drive unit is needed on the back roads, although sedans or pickups can navigate them easily in good weather.

A limitation factor to many sportsmen is the absence of camping areas on the management area. Camping is prohibited and there are no established campgrounds in the immediate vicinity. Motels and cabins are available nearer to Pensacola or across the state line in Atmore, Alabama. Anyone planning to hunt the area would do well to scout it out in advance of the hunting season and to establish a reservation with a local motel in advance.

Once on the area, the sportsman will find there are several private inholdings—farms and homesites—which are excluded from the management area and which are closed to hunting. The number of these is small and should prove no problem to a careful hunter. On the management area itself, there are a series of fences which demark and separate sections of the land. These fenced tracts encompass 5,000 to 8,000 acres each. While this is of little concern to the still hunter, it is a factor which a dog hunter must take into consideration in planning a morning's drive.

Gates to these areas are locked, but the sportsman can enter them on foot, and if he is fortunate enough to harvest a deer in one of these enclosures, he can get to the Perdida company headquarters on 97A, and someone will go with him to get through the gates to bring the deer out.

Four creeks run through the management area and feed into the Perdido River. These are bordered by hardwood swamps which extend into the lowlands along the river. Particularly noticeable in these hardwood areas is the large number of juniper trees, none of which are allowed to be cut, and which have grown to outstanding size.

Other areas of the La Floresta Perdida are of first and second growth pine, with some areas of planted pines varying from 3 years to 20 years in age. Dogwoods in large numbers dot the area, and in the spring they create a highlight of color and scenery.

Quail abound throughout the management area but particularly along the swamps of the several creeks. Scattered throughout the area are grain fields and abandoned fields which afford the bird hunter excellent shooting opportunities, particularly if he is assisted by a good bird dog or two.

These same swamps also afford fine sport for the squirrel hunter, who will find the gray and fox squirrel abundant. And, if in the afternoon the hunting wanes, there is always the river and an opportunity to try fishing waters which don't experience the pressure of many areas.

The Perdido and its feeder creeks are mostly rocky bottomed, and generally run crystal clear. The pole fisherman or the fly rod enthusiast would find fishing to his satisfaction on this, the Commission's cooperative venture in "pretty place of flowers" on the Perdido River. ●

Four management area creeks enter the Perdido River, right. The river bank timber contains many juniper trees which are protected from cutting and which have reached generous size.

Photo By Jerry Girvin

the ruby-throated hummingbird

By MORRIE NAGGIAR

A RUBYTHROAT FORAGING A BED OF FLOWERS reminds one of an oversized bumblebee buzzing its way among the blooms. The metallic green sheen of the back feathers contrasts smartly with the white underparts. At close range and in good light, the brilliant red throat of the male glows like a well-fanned coal.

But this tiny feathered gem of a bird sometimes shows a facet of its disposition that belies its outward beauty. Frequently its mien is that of a high-strung, irritable midget, especially where others of its kind are concerned. To humans it is usually neutral, accepting food offerings in the form of sugared water presented in special glass tube feeders, and adding a lively spark of life to the yard and flower garden.

Flying saucers have nothing on the hummingbird in the way of maneuverability. The species can hover in one spot, motionless except for the wings which beat so rapidly that it appears the body is supported between two wisps of mist. The bird may suddenly shoot off at an angle, tower into the air, or move backward with no more apparent effort than the mere shifting of its will to be in some other spot.

This is the smallest of the myriad of birds that find Florida to their liking. In body length, an adult Ruby-throated Hummingbird measures from 3 to 3½ inches; in wingspread, about 5 inches.

During the summer, the species is resident throughout the state. When cooler weather sets in, it is generally absent from the upper portions of Florida, preferring the more moderate temperatures from about Orlando southward. It winters from southernmost United States southward into Panama.

Migratory movements northward in the spring are well-timed to take in the peak of bloom of certain flowering plants. The vagaries of the weather, however, sometimes spell the downfall of substantial numbers of hummingbirds, catching them with late freezes and causing mortalities from a combination of exposure and lack of food.

So closely associated with blooming of various flowering plants are the rubythroats that it is generally assumed that nectar is the major food item of this bird. Actually, it is the insects that are attracted to the flowers that are the mainstay of their diet, with nectar being, for the most part, a supplemental item. Heavy use of the sugared water feeders is the result of an acquired taste.

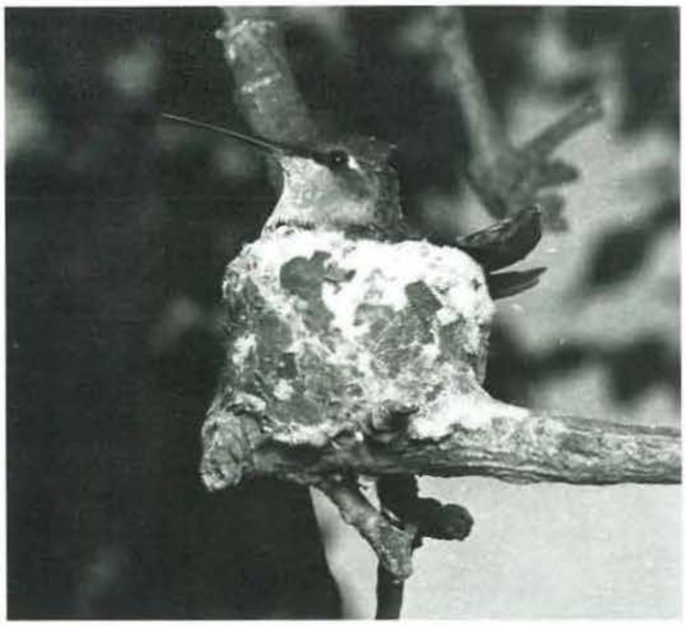


Photo By Leonard Lee Rue III

The most often heard notes of a hummingbird are variations of a high-pitched buzzing—rather insectlike and expressed in writing as z,z,z,z,z,zt.

The mating "dance" of the male ruby-throated is a rather remarkable display of his aerial talents. Performed frequently during the breeding period, it consists of a series of arcs flown so precisely that an observer has the impression that the bird is swinging up and down pendulumlike on the end of an invisible string.

The nest is a compact cup of fine plant fibers, with an outer coating of bits of lichen. It measures an inch across and perhaps the same in depth, and is firmly put together. Commonly, the nest is attached to a small down-sloping branchlet, and from a distance is as unobtrusive as a small clump of moss. Apparently, the female does the nest building without assistance from her mate. Two eggs comprise the usual clutch, and experienced observers have commented that they have never noted more or fewer. The eggs are flat white in color, without the gloss characteristic of many birds' eggs. They average about 7/16-inch in length.

The young are about the size of a pea when hatched. They are sparsely provided with scattered grayish down. Their development is remarkably rapid, however, and within 10 days or a bit longer, they are almost as large as the parent bird.

Although sudden adverse changes in the weather in the more northerly states seems to be the greatest cause of hummingbird mortality, instances where predators have taken individuals have been recorded. Hawks, bass, snakes, frogs, and spiders have all been reported as having successfully preyed on hummingbirds. But the interesting and in some ways not too typically birdlike bird is sure to be around as long as there are flowering plants for it to busy itself amongst. ●

Personal Pet Law

By O. E. FRYE, JR.

UNTIL RECENT YEARS, the possession of wildlife as personal pets caused very few problems. In most instances, the species involved were not considered dangerous, so neighbors were not unduly concerned over a potential threat to the safety of their families.

The vastly expanded pet trade, and the subsequent availability of almost any type of wild animal, has recently complicated this issue. Where once only a very few people had a desire to possess small, rather innocuous wildlife pets, the number of prospective pet owners has accelerated at a phenomenal pace, and the species involved now include types that at least have the potential of inflicting serious injury on the owner or others.

Public concern over the possession of certain forms of wildlife as personal pets has likewise grown in the past few years. Residents who were not particularly troubled over a neighbor keeping a young raccoon have been prompted to a considerable degree of concern over one who acquires a lion cub, for the potential danger from a cub-turned-adult is obvious.

The Florida Game and Fresh Water Fish Commission is charged with the responsibility of insuring that appropriate fish and wildlife policies are administered. With respect to wildlife as pets, we have always assumed the posture that, although we do not recommend wildlife pets to the inexperienced, we appreciate the interest in keeping certain species and recognize the benefits of such interactions under the proper guidelines. This is a philosophy to which we are committed and which we have attempted to incorporate into the draft of regulations affecting the possession of certain species as personal pets.

The growing public concern with the number of unusual and sometimes potentially dangerous wildlife pets, and the occasional case of serious injury that has been inflicted, led to a legislative review of the problem.

As a result, the 1973-74 Florida Legislature had put on the books Section 372.922, Florida Statutes. This legislation established guidelines regarding the possession of certain forms of wildlife pets, and imposed restrictions directed toward safeguarding the public.

Basically, Section 372.922 provided for the establishment of two classes of wildlife as personal pets. Class I was designated as "wildlife which, because of its nature, habits, or status shall not be possessed as a personal pet." Class II was designated as "wildlife considered to present a real or potential threat to human safety," and subject to an annual permit fee of $100. The law further instructed the Commission to establish the accompanying lists defining Class I and Class II wildlife, and to promulgate adequate safety restrictions and humane treatment guidelines.

An attempt to classify certain wildlife as personal pets within just two classes obviously required the establishment of certain basic criteria. Although the large cats and primates are readily identifiable candidates for Class I, the inclusion of these groups within the definition necessarily lead to the consideration of other types of wildlife that have similar characteristics or possess, to varying degrees, the capability of presenting "a real or potential threat to human safety."

Although almost every wild animal is capable of biting or scratching, and thus inflicting injury, an attempt was made to generally apply the following criteria during the selection process:

(1) the size and strength potential of the mature animal
(2) the habits and "reputation" of the animal under captive conditions
(3) the suitability of the animal to captivity as a personal pet

Numerous gray areas were encountered when attempting to apply the definitions of Class I or

Class II wildlife to the entire animal kingdom. A sincere effort was made, however, to develop regulations that carry out the legislative intent by providing adequate public safety and insuring that only qualified applicants possessed certain potentially dangerous wildlife. An equal effort was made to afford a degree of protection to an individual's right to possess personal pets.

For the purposes of this law, diseases and possible ecological repercussions of introduced foreign wildlife were not taken into consideration, since they are generally regulated or controlled by other laws or regulations.

Class I—Wildlife which, because of its nature, habits or status shall not be possessed as a personal pet:

chimpanzee	*(Pan)*
gorilla	*(Gorilla)*
gibbons	*(Hylobates)*
drills & mandrills	*(Mandrillus)*
orang-utans	*(Pongo)*
baboons	*(Papio)*
siamangs	*(Symphalangus)*
gelda baboons	*(Theropithecus)*
snow leopard	*(Panthera uncia)*
leopard	*(Panthera pardus)*
jaguar	*(Panthera onca)*
tiger	*(Panthera tigris)*
lion	*(Panthera leo)*
bears	Family Ursidae
rhinoceros	Family Rhinocerotidae
elephants	Family Elephantidae
hippopotamus	Family Hippotamidae
cape buffalo	*(Synercus caffer caffer)*
crocodiles (except dwarf and congo)	Family Crocodilidae
gavials	Family Gavialidae
black caiman	*(Melanosuchus niger)*
komodo dragon	*(Varanus komodoensis)*

Spoon-fed baby baboon, below, must be treated with as much care as a human baby. Rated as Class I wildlife, he can be dangerous when grown. Parrot, left, doesn't require permit.

Photos By Wallace Hughes

Class II—Wildlife considered to present a real or potential threat to human safety and possessed under permit as prescribed by Florida Statutes 372.922.

howler monkeys	*(Alouatta)*
uakaris	*(Cacajao)*
mangabeys	*(Cercocebus)*
guenons	*(Ceropithecus)*
bearded sakis	*(Chiropotes)*
guereza monkeys	*(Colobus)*
celebes black apes	*(Cynopithecus)*
indris	*(Indri)*
macaques	*(Macaca)*
langurs	*(Presbytis)*
douc langurs	*(Pygathrix)*
snub-nosed langurs	*(Rhinopithecus)*
proboscis monkeys	*(Nasalis)*
serval	*(Leptailurus serval)*
European & Canadian lynx	*(Lynx lynx)*
cougar, panther	*(Felis concolor)*
bobcat	*(Lynx rufus)*
cheetah	*(Acinonyx jabatus)*
caracal	*(Caracal caracal)*
African golden cat	*(Profelis aurata)*
temminck's golden cat	*(Profelis temmincki)*
fishing cat	*(Prionailurus viverrina)*
ocelot	*(Leopardus pardalis)*
clouded leopard	*(Neofelis nebulosa)*
coyote	*(Canis latrans)*
grey wolf	*(Canis lupus)*
red wolf	*(Canis niger)*
Asiatic jackal	*(Canis aureus)*
black-backed jackal	*(Canis mesomelas)*
side-striped jackal	*(Canis adustus)*
Indian dholes	*(Cuon alpinus)*
African hunting dog	*(Lycaon pictus)*
wolverine	*(Gulo gulo)*
honey badgers	*(Mellivora capensis)*
Old World badgers	*(Meles meles)*
American badgers	*(Taxidea taxus)*
binturongs	*(Arctictis binturong)*
hyena (all species)	Family Hyaenidae
dwarf crocodiles	*(Osteolaemus tetraspis)*
alligators and caimans (except American alligator and spectacled caimans)	Family Alligatoridae
ostrich	*(Struthio camelus)*
cassowary	*(Casuarius* spp.)
Class I Wildlife	(Permanently kept in maximum security facilities that are equal or superior in security to those required for the same species for public exhibition.

Persons possessing wildlife other than Class I or Class II as personal pets must obtain a no-cost permit from the director of the Commission, provided that no permit shall be required to possess the following:

reptiles
amphibians
gerbils
rats and mice
squirrels and chipmunks
lovebirds
cockatiels
parrots
toucans
mynah birds

(Continued on next page)

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rabbits and hares
moles and shrews
canaries
shell parakeets
finches
hamsters
guinea pigs

The provisions of this law shall not privilege possession of any endangered, threatened or otherwise protected species.

All wildlife possessed under the provisions of this law shall be housed in a safe and sanitary manner as prescribed by the Commission. No person shall confine or maintain any wildlife in confinement in any unsanitary or unsafe condition or in a manner which results in the maltreatment, mistreatment or neglect of such wildlife, nor shall any species of wildlife be confined in any pen, cage, or enclosure which does not meet the minimum specifications established by the Commission for the species.

Wildlife exposed to the public must be under adequate supervision, and reasonable caution must be exercised to protect the public from injury. Failure to adequately protect the public from the wildlife defined in this law shall be considered a violation.

All wildlife possessed under the provisions of this section will be maintained in accordance with the following general safety requirements:

(1) Outdoor cages will meet minimum humane and safety requirements established by the rules and regulations of the Commission.
(2) Strength and type of materials used for cage construction will be compatible with the species maintained.
(3) Cage construction and design whether indoors or outdoors, shall be formulated to insure maximum safety to the public and preclude accidental escape.

Wildlife possessed under the provisions of this section shall not be exercised in residential or business areas, except on the owner's property or other property on which prior permission has been obtained, and shall be restrained in such a manner as to prevent escape.

Any person authorized by the Commission to conduct general research or captive breeding projects, or to operate rehabilitation centers for wildlife, shall be exempt from the permitting requirements of this section.

There is created a wildlife pet council which shall consist of seven members designated by the Commission to serve as an advisory board and to develop minimum and maximum standards for wildlife kept as personal pets. The council shall be comprised of individual pet owners, representatives from pet owners associations, veterinarians, and others as designated by the Commission.

All Class I wildlife possessed prior to July 1, 1975, the effective date of this section, shall be subject to the permitting and safety provisions of Class II wildlife, provided they are registered on or before December 31, 1975. Acquisition of Class I wildlife after July 1, 1975, shall be a violation of the provisions, and the retroactive clause shall not be applicable. ●

Wildlife, including the coyote, above, possessed under the provisions of new law must be housed in a safe and sanitary manner as prescribed by the Commission. Rhinoceros is Class I—Dangerous Wildlife—and cannot be kept in substandard enclosure. Animals so classed must be housed in structures that will insure the public's safety.

Photos By Wallace Hughes

G. I. Standby

you'd be hard pressed to find a military design arm that has been as universally accepted as the .45 caliber 1911A1 autoloader

By EDMUND McLAURIN

FAME OF THE BROWNING-PATENT .45 Model 1911A1 autoloading pistol is worldwide. It is probably the most universally adopted (in original or modified form) military handgun invented.

Used with the 230-grain, round nose, jacketed bullet, the .45 caliber Model 1911A1 pistol has been the standard sidearm of the American armed services since almost the turn of the century. Patented in 1905 and first produced in 1906, the adopted handgun subsequently received its present official designation.

As a Service weapon, the .45 autoloader is extremely rugged mechanically, easily maintained, and powerful.

It is also a difficult handgun to master, especially for a shooter possessing small hands and short fingers.

Many valid complaints have been made against the .45 caliber Model 1911A1 pistol in both its military and civilian production forms. Users invariably find that they don't shoot too well with it, and grumble that gun performance does not equal their shooting ability. Additionally, some users experience ammunition performance problems with certain lots of ammunition and bullet styles.

Others admit to being leery of the Model 1911's tendency to pinch flesh between the tang of the exposed hammer and the tang of the grip safety, a fault eliminated in the commercially available "Commander" model.

Although I qualified as Pistol Expert under the Army and NRA systems of qualification, and somehow managed to make Expert three times over the Defense Department's Advanced Combat Course, I never could confidently let off long strings of shots without anxiety about the handgun possibly twisting uncontrollably in my grip and spoiling a particular shot and final score. It required the expenditure of many thousands of rounds of ammunition to develop the skill needed to make Expert with the .45 and to also score high over the more difficult National Match Course. In addition, my 45's had to be kept "tuned up" mechanically to get consistently creditable accuracy.

Recently, I have experienced renewed interest in shooting the .45 caliber Model 1911A1 autoloading pistol. That fresh surge followed acquisition of a pair of the new Pachmayr "Signature" one piece, wraparound-style, molded neoprene rubber grips, made to fit various versions of the Model 1911, including the "Commander," "Gold Cup," and "National Match" models.

When I made substitution of the new grips for the ones on my .45, I wasn't particularly impressed with their potentialities, but when I gripped the finished installation, I knew right away that a gun handling benefit had been added.

The grips not only felt resilient under my hard squeeze (necessary with the .45), but the surface had a slightly sticky feeling, without actually being so. Also, the wraparound design of the grips provided a desirably checkered front strap gripping surface, without any alteration to handgun frame.

Actual firing proved there was less tendency for the handgun to twist in my hand from jolting recoil. Higher scores seemed to accrue without any conscious strain to obtain them. Decidedly, the .45 autoloader suddenly became more pleasurable to shoot.

The neoprene grips are a great aid to natural pointing of the .45, a necessity for fast aim, as required in combat.

There are a few tips that I should pass along to anyone contemplating taking up shooting of the .45 cal. Model 1911A1 autoloading pistol.

First, obtain and use one of the precisely assembled, improved versions like the "Gold Cup," "National Match," or "Commander" models. These are not only superior to the Army service model in smooth functioning, but also come with improved sights.

Where a handgun of Army Service issue is already possessed, it should be put in the hands of a competent gunsmith specializing in accurizing the .45 cal. Model 1911A1.

He will hand-fit the barrel to the slide, possibly by installing an oversize bushing close to the muzzle, to obtain tighter mounting of the barrel's front end. Likely, slide-to-frame contact will also be tightened up, and the trigger's mechanical action checked for smoothness and any existing lateral and vertical play removed. The feed ramp will probably be polished (as it should be) to glass smoothness.

Although the trigger mechanism will likely be smoothed, release pull will probably be maintained close to four pounds of applied pressure,

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for mechanical safety reliability, and the heavy trigger pull made to *seem* lighter either by installing a new, wider trigger or adding a trigger shoe to the existing trigger, to provide more contact surface for the trigger finger.

If the owner of the Service model pistol decrees, the gunsmith will substitute target-type sights or make custom improvements in the existing sights. Most likely, substitution of proven target sights of well-known make will be recommended.

A .45 caliber Model 1911A1 autoloader that has been accurized by a gunsmith who understands the mechanical improvement job he faces, as does gunsmith Frank Pachmayr, of Los Angeles, will give surprisingly good 50-yard range accuracy in the hands of a shooter who knows how to handle it. The same shooter can get reasonably satisfying performance out to 75 yards. Beyond that range, however, the .45 caliber Model 1911A1, whatever its manufacture or alteration, cannot be considered reliable.

Although the .45 autoloader has a manually operated thumb safety, as well as a nonmanual mechanical safety (in the back of the handle), it is a handgun that should always be respected as potentially dangerous.

Personal safety dependence should never be placed on the Model 1911's half-cock hammer position safety feature. Under no circumstances should the handgun be carried, or stored, chamber-loaded with hammer in half-cock, or so-called "safety" position.

Similarly, when first picking up any Model 1911 preparatory to examination or loading sequence, the gun handler should first completely remove the clip magazine, then activate the slide to open and visually inspect the action to make certain it is clear. Then a loaded clip can be fitted to the handgun and a live round chambered for firing.

Natural tendency of the big .45 autoloading pistol is to jump around on firing. To control wild movement—especially a tendency to twist in the hand from recoil—the handgun must be gripped hard, with the shooter's wrist being firmly locked against the hard jolt of firing. Any looseness at the wrist of the gun-holding arm will invariably result in poor control of this particular model handgun. This is common reason many shooters fail to get good results with the .45 Model 1911A1. Pachmayr's "Signature" wraparound, molded rubber grips help materially in achieving a notably hard, nonslipping hand hold and combined wrist lock.

Where only a few rounds are fired from a fully loaded clip, and the shooter intends to set the handgun aside for a few moments, the clip should be withdrawn (at least partially) and the action opened, by pulling back the slide and maintaining it at "locked open" position until again ready to push the clip to full position to feed a live round into the chamber, preparatory to firing.

Where the .45 autoloader is carried with loaded clip fully inserted in the handle, there should not be any live cartridge in the chamber. For readiness of slide activation, the manual safety lever (on left side) is not slipped in its slide-locking notch.

With only a little manual practice, it is easy to remove the handgun from a GI-style service holster, and manually activate slide-pickup of a loaded round into chamber, all within the short time span of a second. Dexterous firers of the Defense Department's Advanced Combat Course are able to do so with apparent ease.

Closer observers will note that these shooters instantly activate the cartridge pick-up slide with left hand the moment the weapon is fully withdrawn from holster and right arm pointing is started. Merely releasing the pulled-back slide causes it to slam shut on a picked up and chambered live round.

Total execution time is seldom more than a second. The skill comes with practice.

In serious target shooting, the .45 caliber Model 1911A1 autoloading pistol should be picked up with

Shooters firing the .45 caliber Model 1911 over the difficult National Match Course.

Improved National Match version of the .45 caliber Model 1911A1 autoloading handgun, which invariably gives better accuracy than Service-issued sidearm.

the non-shooting hand and fitted to the gun pointing hand, so that the gun handle is forced back hard into the hand, and directly between thumb and forefinger. The fingers are wrapped very firmly around the grip.

The same correctly established position of gun and grasping hand and fingers should be repeated every time the gun is picked up for firing. Desirably, the pistol should rest in the hand so that it represents a continuation of a straight line that runs through forearm and wrist, as the handgun is gripped hard.

To achieve this hard gripping and at the same time realize steady gun pointing, the hand muscles should be strengthened by squeezing strong, spring-type exerciser daily.

In aiming, the sight picture must be consistent in formation from shot to shot. The shooter should take pains to get a perfect sight picture (relation of rear sight, correctly centered front sight, and target). Dry practice will give marked benefit in establishing a precisely correct and consistently repeated sight picture. There won't be any jolting firing recoil to cover up unsuspected aim and shot let-off errors.

Trigger pressure should be applied with the first joint of the trigger-activating finger, and should be straight back, in a smooth, continuous sequence.

To keep the trigger finger from possibly dragging against handgun, the finger should be sharply bent (to clear it from handgun contact, except at first joint contact with the trigger). Besides being desirably wide, the trigger should have a rough surface, for more positive and sensitive trigger finger contact.

Despite these practical suggestions, most first-time users of the .45 Model 1911A1 autoloading pistol will likely find it a discouraging gun to shoot. These should first become familiar with an easier to shoot .38 or .22 caliber gun of design similar to the .45 caliber Model 1911A1. Close facsimiles in these lighter calibers are available. Also available is an interchangeable conversion unit that converts the .45 to .22 caliber. The Colt Company, Hartford, Connecticut 06102, is the supplier.

But even when a similar feeling, lighter caliber autoloading handgun is mastered, the challenge of the .45 caliber Model 1911A1 will always be there. It is a hard handgun to truly master.

In earning Expert rating or regularly scoring high over the National Match Course with the .45 ACP cartridge and teamed autoloading handgun, you will really have to work at it.

MOST OWNERS OF FAMILY-SIZED live-aboard cruisers and houseboats like to have a firearm aboard. Countless watercraft now have one for pleasure use or for protection.

Unfortunately, our Florida climate, with its frequently high humidity and substantial salt air content, can be very hard on firearms not regularly cared for, and particularly so on guns kept on boats. Usually, frequent applications of salt air-resisting, moisture-displacing spray-on solutions, such as Garcia RV-2, Outers Laboratories MD No. 1, or Free 'N Kleen Marine, are needed if a firearm kept on a boat is to be maintained in good condition.

Even so, many fine guns are ruined because owners forget to examine them frequently and take rust-preventative steps.

Because it is so easy to overlook regular examination, and to renew protective chemical film on a little-used firearm, many gun owners elect to have firearms either chrome-plated or Teflon treated. Both help materially in reducing likelihood of atmospheric corrosion.

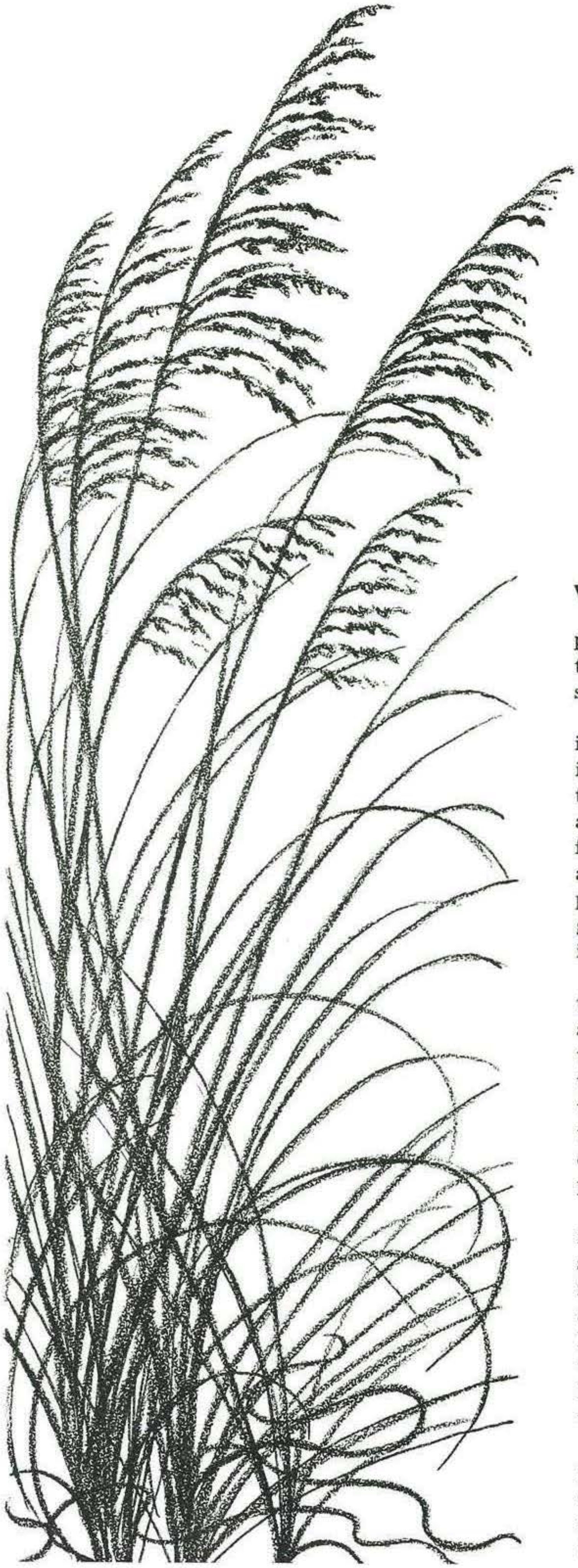
But the best protective finish found so far is Armaloy, a modern process of firearm finishing that has proven virtually impervious to temperature extremes, rust, and corrosion. Armaloy differs from chrome-plating in that the finish, applied at low temperature, actually penetrates the gun's steel and becomes part of it.

Although file-hard of final finish, Armaloy has the inherent quality of reducing friction between moving or contact parts. It also offers a non-reflective surface in finished form.

Armaloy offers the acme in protection against rust and corrosion of guns kept aboard boats or in Florida coastal homes, gun owners and research technicians are finding.

The cost of Armaloy finishing runs slightly above that of Teflon coating, depending, of course, on the size and mechanical design of the firearm being serviced.

Armaloy Company, 206 E. Daggett Street, Fort Worth, Texas 76104, will send you descriptive literature and prices on request. ●



pleasing to the eye
and invaluable in keeping
shoreside dunes in
place is this unique grass

Sea Oats

By JOHN FIX

VISITORS TO FLORIDA'S SUN-DRENCHED beaches are ofttimes puzzled when they encounter neatly printed signs reading: "Because of their importance, park and state laws prohibit the picking of sea oats flowers or seed."

Sea Oats! The visitor looks about a little sheepishly. Perhaps someone is pulling his leg? Maybe it's a joke of some kind? But, no. Here and there, topping the heaps of sand mounded by the wind, are tufts of grasses whose taller stems dance gracefully in the offshore breeze. And these tufts bear a striking resemblance to the oats of the inland prairies. These, then, are sea oats—or, perhaps, with greater accuracy, sea*side* oats, since none are found in the water.

The visitor's interest is awakened. Why all the to-do? What's so important about sea oats, pretty as they are, to warrant state protection? Simply that sea oats are the only plants that can live on the dry, dusty dunes of the seashore; dunes so dry that a 6-inch-tall stand of sea oats may be found to have burrowed its roots 5 feet or more in search of moisture—and in the bargain sent up additional plants.

The long roots hold and bind the dunes, protecting them from erosion by wind and wave. Without sea oats, the dunes are forever shifting and wearing away. Eventually an entire beach will disappear as the sea creeps in to establish a new shoreline. If sea oats are permitted to stand and propagate, the dunes will grow in size, as the tufts and rolled leaves of the plant catch and trap sand set in motion by the wind.

For the technically-minded, sea oats are *Uniola paniculata* of the Poaceae family—the same family as sugar cane. Sometimes sea oats are known as marram grass, or simply beach grass. Sea oats bear flowers in long, cylindrical clusters. The flowers turn to seeds in the fall, and these, propagating, provide more plants to help stabilize the dunes.

The worst enemies of sea oats are dune buggies and sea oats pickers. Oats pickers gather the grasses for their stalks and attractive flower clusters. Sometimes the collectors are florists who sell them at fancy prices. At Sanibel, an island off the Florida west coast, long a mecca for shell collectors, the sea oats that once grew in magnificent volume are being thinned out by oats pickers at an alarming rate. While sea oats are protected by law in Florida and a number of other states, such laws are virtually impossible to enforce.

Recently, the Florida Department of Natural Resources came up with a plan that will allow the commercial harvesting of the seeds of the sea oats. This would be in carefully selected areas, under contracts that call for the state to receive a share of propagated plants, which would be placed along presently defoliated dune areas.

However, unless all seashore visitors are impressed with the danger to our beaches with the removal of sea oats, these beaches will suffer constant erosion. And offshore islands such as Sanibel, more likely to be subjected to the hazards of wind and wave than the mainland, are extremely vulnerable.

Some of the latter may even suffer the fate of Caprice Island, mentioned in Bern Keating's excellent book, THE GULF OF MEXICO (Viking Press, 1972).

Caprice Island, off the Mississippi coast, was a popular vacation spot with a marina and an elaborate resort hotel. Its dunes were covered with sea oats.

A Chicago florist offered high prices for sea oats cuttings. People armed with scissors and baskets gleefully swarmed over the island, bent on getting on the gravy train. The dunes were quickly stripped of their sea oats coverings. Too late the residents of Caprice Island discovered that sea oats had been the only thing holding their island together. Gradually, the island and all its manmade artifacts—including the resort hotel—slid into the water. "All that's left now," reports Keating, "is an upswelling bubble that ripples the Gulf's surface where the hotel's artesian well still spurts a stream of fresh water into the sea." ●

Drawing and Photo By Wallace Hughes

CONSERVATION SCENE

Consolation Bass

WATCHING A BIG BASS GET AWAY is hard to take, but the blow can be softened when the fisherman hooks into a 16-pounder five minutes later in the same spot and lands him.

Dr. Claude Godwin, a Titusville dentist, had that experience in April while fishing a stream tributary to the St. Johns River west of Cocoa.

That first bass that got away he estimated weighed in at 18 or 19 pounds, but he isn't complaining about the 16-pound 2-ounce bass he landed shortly after.

Godwin, who is a member of the governing board of the Central and Southern Flood Control District, received a FLORIDA WILDLIFE Magazine Fishing Citation for the lunker, which comes fairly close to the unofficial state record 19-pounder caught in 1961.

The bass was weighed on certified scales as required for a citation, and two other people witnessed the catch.

Godwin's bass is the largest for which a FLORIDA WILDLIFE fishing citation application has been submitted this year. Citations are available to subscribers and their immediate families. Application blanks are printed on the inside back cover of each issue. So far this year, some 50 persons have received citations for bass weighing more than 8 pounds.

Stocking the Sunshine

NINETEEN FLORIDA LAKES have received a total of 175,000 recently-named Sunshine Bass (striped bass-white bass reciprocal hybrid) fingerlings. (See the May 1975 issue of FLORIDA WILDLIFE p. 18) Forrest Ware, Commission biologist in charge of the striper project, said the lakes stocked this year included one in the Northwest Region, six in the Northeast, two in Central, seven in South, and three in the Everglades Region.

The largest stocking was in the East Winter Haven Chain, which received 38,000. Lake Parker, in South Florida, received 20,000; and Cherry Lake, in Northeast Florida, got 10,000.

Fishing for the new hybrid will be strictly on a put-and-take basis, since the crossbred fish is not expected to reproduce in Florida lakes.

The name Sunshine Bass was selected for the striper-white bass hybrid by the members of the Game and Fresh Water Fish Commission at the May business meeting in Tallahassee.

Florida Dog Wins

NORTHWEST FLORIDA HAS A FOUR-LEGGED Florida first to brag about these days.

A seven-year-old, white and black speckled English pointer has captured the Purina National Field Trial Bird Dog Championship for 1974-75, the first time a Florida dog has won in the 12 years of the contest.

White Knight's Button, and his owner, Jack Fiveash, of Pensacola received the award for the dog's winnings in the field this past season. To capture the trophy Button collected 1,720 points at various trials.

Among his wins were the U.S. Quail Championship at the Sagefield Plantation in Alabama, the Masters Quail Championship at Albany, Georgia, and the Suwannee River Field Trial in Florida.

Fiveash is justly proud of Button, who has won eight various championships in the past two years, and during the past season his offspring have captured more championships than any other dog on the national circuit.

Button's owner is well known in his own right. Fiveash is active in the Northwest Florida Pointer and Setter Club, and is one of the outstanding amateur handlers on the circuit.

He has assisted the Game and Fresh Water Fish Commission greatly in establishing and developing a field dog trial and quail management area in the Blackwater Forest.

Guess What . . . .

IT'S STILL AGAINST THE LAW to mess around with alligators, and this includes possession of the endangered reptiles as well as buying and selling live specimens and products made from alligators.

According to Lt. Col. Brantley Goodson, law enforcement chief of the Game and Fresh Water Fish Commission, Tallahassee, an early morning raid on Tuesday, May 6, by Commission wildlife officers and agents of the U. S. Fish and Wildlife Service resulted in the arrest of Romulus Scalf of the Cypress Community of Jackson County in northwest Florida.

Goodson reported that Scalf

will face both federal and state charges for the possession, buying and selling of alligators. He will also be charged with the unlawful possession of birds that are protected by both Federal and State laws.

Robert W. Slattery, special agent for the U. S. Wildlife Service in charge of Florida, said the raid on Tuesday resulted in the confiscation of 12 live alligators plus one alligator skin. A search of the animal compounds and buildings also revealed several hawks and one owl in a deep freeze plus one live green heron.

The search also uncovered a number of poisonous snakes as well as a number of native wild animals.

Goodson said that Scalf reportedly captured and purchased live alligators and other wildlife for shipment to markets in northern states.

He added that a thorough investigation into the animal operation indicates that Scalf had an established market for live alligators, and that the investigation was initiated by U. S. Wildlife Agents Bill Parker and David Hall of Tennessee.

The Commission's law enforcement chief reported that Scalf moved to Florida from Tennessee, and that the Commission has maintained a continual inspection into the animal compound operation of the arrested man.

Scalf has been charged with five state misdemeanor charges and two third degree felony counts. Bond was set at $6000 by Jackson County Judge William Dykes. Federal charges are pending.

According to Goodson, the investigation is continuing and other arrests are expected.

Procedure Adopted

At the March meeting of the Commission in Tallahassee, the procedure on restocking deer and turkey, followed by the Commission for many years, was clarified and officially adopted. Incorporated into the minutes of the meeting was the following statement of policy:

The Game and Fresh Water Fish Commission, in exercising its powers to the State with respect to wild animal life, has found that restocking many species of wildlife is an effective wildlife management tool for establishing breeding populations in desirable habitat.

The Commission directs that the following procedure will be instituted in trapping and restocking wildlife by Commission personnel.

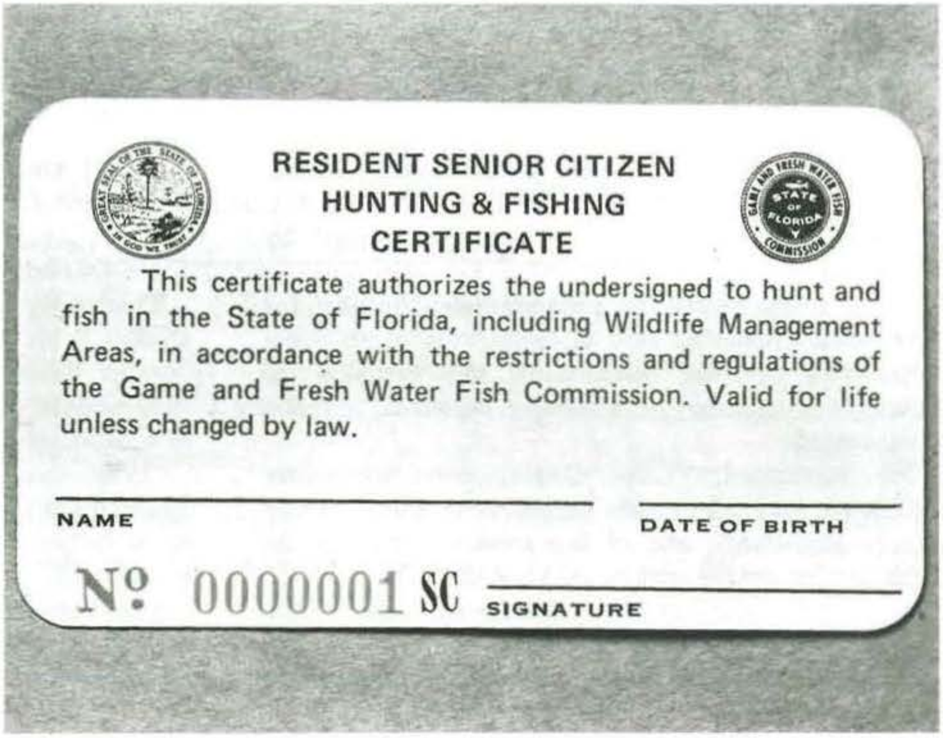
1. The Director will provide annually for Commission approval a list of birds and/or animals to be trapped, the location of trapping sites, and the counties or areas to be restocked.
2. The Director will provide monthly reports to the Commission on the progress of the trapping and restocking projects during those periods of the year when they are conducted.
3. The Director will provide the Commission with a final report on trapping and restocking birds and animals upon completion of the project.
4. The Commission authorizes the Director to approve trapping and disposition of birds and animals which the Director finds to be a nuisance or that for other reasons may need to be trapped and relocated or otherwise disposed of.

Senior Citizens Certificate

Florida's senior citizens—persons 65 years of age and over who have resided in the state at least a year, and in one county for at least six months—can now receive, without cost, a lifetime Resident Senior Citizen Hunting and Fishing Certificate.

The new, numbered wallet cards are being issued courtesy of Florida's county tax collectors, who also sell regular hunting and fishing licenses and wildlife management area permit stamps, now available, and required, for 1975-76.

Senior citizens should carry proof of age when requesting issuance of their free hunting and fishing certificates, and those planning to hunt on a wildlife management area during the first 9 days of the fall season should also pick up from the tax collector an application for a Quota Hunt Permit, also free. The number of a person's management area stamp or Senior Citizen Hunting and Fishing Certificate must appear on the Quota Hunt Permit application.



RESIDENT SENIOR CITIZEN
HUNTING & FISHING
CERTIFICATE

This certificate authorizes the undersigned to hunt and fish in the State of Florida, including Wildlife Management Areas, in accordance with the restrictions and regulations of the Game and Fresh Water Fish Commission. Valid for life unless changed by law.

NAME ______________________ DATE OF BIRTH ______________

Nº 0000001 SC ______________________
SIGNATURE

WILDLIFE RESEARCH REPORT

Too Many Fish!

WHAT DOES ONE DO WITH A LAKE that contains 45 million pounds of fish when he knows the same lake would produce bigger and better fish if it only had 25 million pounds? According to John Woods, fishery chief of the Game and Fresh Water Fish Commission, the best solution would be to utilize the resource by catching, cooking and eating 20 million pounds.

In talking about the fish population of Florida's popular Lake Okeechobee, Woods said, "The fish population should be considered a renewable resource. If a rancher can reduce the size of his herd and improve the size and condition of the remaining animals, a fisherman should be able to harvest his fish and, at the same time, improve the overall condition of the fish population."

Woods stated that crowding of fishes in the lake is a major factor in reducing the size of the black crappie (speckled perch) and the reproduction and growth of largemouth bass.

The problem of managing the fish population in the big lake is compounded when one considers that an estimated 37 million pounds of fish never have the opportunity to nibble a worm or strike a lure. Woods said the 37 million pounds occur in the open waters that are seldom visited by sport fishermen. He added that an estimated 21 million pounds of the 37 are gizzard and threadfin shad.

Recent fishery research studies on Lake Okeechobee estimate that more than 8 million individual black crappie are present in the lake and that less than 1 million are being harvested by fishermen.

"This is far below the recommended harvest for warmwater fisheries, and underharvest of an overpopulating species compounds the problem of proper management of a fishery resource," Woods commented.

He continued, "Lake Okeechobee has many problems, and, like many highly productive waters in the Southeast, one of the most common problems is the overcrowding of panfish. Fish such as the bluegill, shellcracker, and crappie have the ability to overpopulate any body of water where they are not kept in check, and the fish appear to have done just that in Okeechobee."

When fish become overpopulated, they also become stunted, and fishery biologists studying Okeechobee have indicated a reduction in the growth rate and size of the black crappie in the last quarter of a century. The unfortunate part of overpopulation is that it affects fish other than the overpopulated species.

In continuing the Okeechobee discussion, Woods said, "Eutrophication is a word that was almost unknown to fishermen 20 years ago; however, it has now become common in the vocabulary of the average angler, and Florida's number one lake is suffering from an accelerated case of this natural aging process. In other words, Okeechobee is dying before its time as a result of pollutants, in the form of excessive nutrients, entering the water."

Once nutrients are in the water, they become tied up in some form of aquatic life. This may be in the form of algae, higher plants, or fish. While it may not always be possible to completely eliminate the nutrient flow, it is possible to remove some of the nutrients bound in the fish life. This removal will prevent the recycling of the pollutants that would be released as fish die from natural causes.

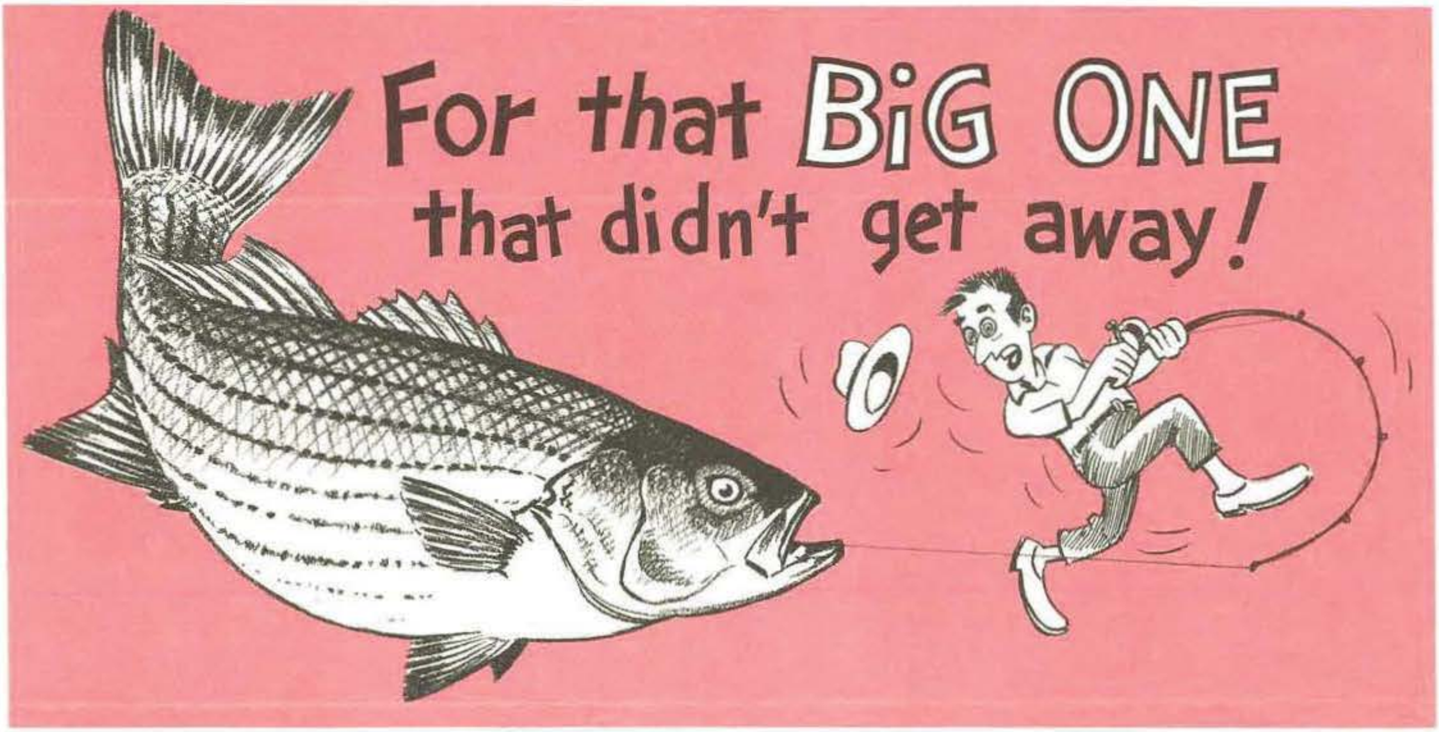
According to Woods, if only 10 million pounds of fish were removed from Okeechobee it would also remove approximately 4.5 percent of the phosphorous and 9 percent of the nitrogen that is annually trapped in the lake.

Removing even this small percentage would help retard eutrophication and help prolong the life of Lake Okeechobee.

The major problem being faced by Lake Okeechobee is simply that fishermen are not harvesting enough fish and, according to the chief biologist, this just is not sound management or utilization of a renewable natural resource.

"If we want to save Lake Okeechobee and continue the history of outstanding sport fishing, we must harvest a greater percentage of the fish population," Woods concluded.

The comments by Woods were made at a meeting of the Game and Fresh Water Fish Commission as he presented a proposal for greater utilization of the fishery resource of Lake Okeechobee. ●



FLORIDA WILDLIFE'S FISHING CITATION

is available without charge to subscribers to FLORIDA WILDLIFE Magazine and their immediate families who catch any of the listed freshwater fish of the prescribed minimum size. A citation for framing will be mailed to the applicant upon receipt of the following application form properly filled out and signed. Only those applications received within 90 days of the date of catch will be honored.

ELIGIBILITY REQUIREMENTS
SPECIES

LARGEMOUTH BASS	8 pounds or larger
STRIPED BASS	10 pounds or larger
CHAIN PICKEREL	4 pounds or larger
BLUEGILL (BREAM)	1½ pounds or larger
SHELLCRACKER	2 pounds or larger
BLACK CRAPPIE	2 pounds or larger
REDBREAST	1 pound or larger

TO BE ELIGIBLE . . .

all fish must have been taken from the fresh waters of the State of Florida, on conventional tackle, with live or artificial bait, in the presence of at least one witness. The catch must have been weighed and recorded at a fishing camp, tackle shop, or similar establishment, by the owner, manager, or an authorized employee. No citation will be issued for a record-sized catch unless fish was preserved for examination.

APPLICATION FOR FLORIDA WILDLIFE FISHING CITATION

The Editor, FLORIDA WILDLIFE Date____________
Game & Fresh Water Fish Commission, Tallahassee, Fla. 32304

Please send me the Florida Wildlife Fishing Citation with the inscribed data listed below:

Name (please print)____________________

Address ____________________

City__________ State________ Zip No.________

Species__________ Weight________ Length________

Type of Tackle____________________

Bait or Lure Used____________________

Where Caught____________ in________ County

Date Caught________ Catch Witnessed By____________

Registered, Weighed By____________ At________

Signature of Applicant____________________

CUT OUT AND SAVE THIS APPLICATION BLANK

Bullfrog

Photo By Lovett E. Williams, Jr.

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